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PRESIDENTIAL ADDRESS DELIVERED AT THE MEETING OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

BY WM. VARIAN, M. D.,

Of Titusville.

GENTLEMEN: Thirty-five years ago there met in the city of Lancaster a small and earnest body of medical men, who organized "The Medical Society of the State of Pennsylvania," and announced as their object "the advancement of medical knowledge; the elevation of professional character; the protection of the professional interests of its members; the extension of the bounds of medical science, and the promotion of all measures adapted to the relief of suffering, the improvement of the health, and the protection of the lives of the community."

More than a generation of human beings have accomplished their earthly pilgrimage since that meeting was held. Yet still it is our privilege to see in the audience here assembled more than one of the original founders of this Society, who, in the year 1848, were present at its organization.

These men have worked for full thirty-five years to advance the noble object of their incorporation. They have encountered much discouragement in their enterprise, and have overcome many obstacles in the opposition incurred from the misapprehension of motives, or the conflicting of selfish interests which have arisen from without, as well as in the friction necessarily developed within the Society itself. God grant, that for many years to come, the few who still survive that small body of pioneers, may be privileged to meet with the hundreds who now throng to the annual meeting of this Society, and, while watching with pride the result of their work, be annually greeted by us with loving reverence, as we profit by their counsel and ripened experience.

And what do these, our fathers, see as the result of the generation's work to which they have devoted themselves?

Instead of the half dozen counties in which societies were organized at the time of their first assembly, they now behold an active, living county society in almost every one of the sixty-six counties in the State.

In lieu of the few members, who could then easily be counted by tens, and but few of *them*, nearly eighteen hundred physicians are now enrolled upon the list of members; and the meetings are thronged by hundreds of the best men and women in the State, who yearly assemble to read and discuss papers on every branch of medical science and State medicine. Here they come to sift each others brains and garner for themselves the medical wheat which has been grown in every corner of this great Commonwealth. Here, too, they grind and bolt this grain which, made into bread, furnishes food to every medical mind of the eighteen hundred members of this truly great "Medical Society of the State of Pennsylvania." Our fathers see this Society always keeping in prominent view the last clause of that great object with which it was founded, and yearly becoming a greater power in influencing legislation for the establishing of hospitals for the insane, the feeble-minded, the sick, and the af-

flicted. Never ceasing their efforts to obtain wise and efficient legislation in behalf of State hygiene; educating themselves, and those about them, in the true method of preventing disease; how best to build, to drain, to ventilate, and to heat their public buildings and their dwellings; how to properly clothe and feed their children and themselves; how to avoid the dangers of contagious diseases and to strangle or stamp them out when they arise; all this, and much more, do these, our fathers, behold as the result of their small beginning, and can now grasp each others' hands in hearty congratulation on seeing their work pushed forward by clear brains, strong hands, and willing hearts, and feeling that it will never cease so long as human weakness and human blindness continue to outrage nature's laws, and thus make medical science necessary to their physical salvation.

Fellow-Laborers in the Science of Healing! We have still a great burden of work to accomplish.

Charlatanry, superstition and ignorance still roam almost unchecked throughout our state, and are ravening upon the spoils to be gathered from those whose bodily afflictions render them credulous of the vaunting assertions of Empiricism. And as yet, there is no, or at least insufficient, legal protection for our wards.

People of all sorts and conditions of life, in town and in country, daily sin against the laws of health, originating and disseminating the seeds of disease which endanger themselves, their neighbors, and even the entire community in which they live; and as yet there is no State Board of Hygiene, which would render it possible to invite them to the marriage-feast of health and pure living, and compel them to come in. We need, and we must have, a State Board of Health, strengthened and supported by local boards in every city, town, and borough; that we may be enabled to carry out our object to promote the well being of our fellow-citizens. The great aim and object of our being, as physicians, is to prevent disease. Our duties as healers of the sick are but secondary. In order that this aim can be accomplished we need a body endowed with legal powers to enforce sanitary laws in all public and private enterprises. In the construction of our school buildings, our churches and our hotels; in the regulation of public funerals; in the drainage and water supply of our towns; in the arrest of the spread of contagious diseases; in the supervision of vaccine farms; in *every* particular in which the public health requires protection; these sanitary laws should be enforced, and this State Board of Hygiene should be empowered to enforce them. Let us then continue to wage the conflict with ignorance, selfishness and indolence. No matter how frequently repulsed, let us never be disheartened. Every time we are thrown to the earth let us rise with renewed vigor and return to the conflict, until we have succeeded in our object, and have at our command the means to prevent the preventible diseases to which man is subject, within the limits to which human knowledge permits us to go.

Among the hygienic problems of the future whose claims we can now see looming upon the horizon, and whose demands for solution become more imperative as time passes away, none is of more importance than the disposition of the dead. The steady increase in the presence of zymotic diseases, and their widespread and almost universal diffusion wherever civilized man inhabits the earth, is a subject of grave thought and serious alarm. However much scientists may differ as to the entity of the germ or the malaria which constitutes the primary poison of diphtheria, scarlatina, typhoid fever, and other systemic diseases, they are all agreed in looking for the sources of this poison in the water that we drink and the air that we breathe, contaminated, as they are, by the gaseous, fluid, or solid results of the decomposition of animal and vegetable debris. Whether these destructive influences are the product of telluric operations of a mysterious character, or of subtle changes in the chemical laboratory of nature which we are not yet able to explain, or to the germination of microscopic beings, whether animal or vegetable, which find their nidus and habitat in the hot-bed of decomposing matter, and when transplanted to the vital tissues, exercise a destructive influence, we will not now stop to inquire. But it is not too soon for us to begin to consider whether self-protection does not demand of us that we should abstain, so far as lies in our power, from adding to the constantly accumulating mass of animal debris which is steadily supplying nature's magazine with an increasing amount of material for the manufacture of these lethal influences. Is it not time that a sentiment hitherto fostered by a long continued but dangerous custom, should yield to practical scientific common sense, and that we should take measures to prevent future generations from being obliged to inhale or swallow the exuvia of the charnel-house or the grave, and so lessen for them the evils to which we are exposed? It ought to be very easy for us to solve this problem, since the solution is given in the single word *cremation*.

Let all refuse animal matter, whether human remains or those of the lower animals, be promptly condemned to the ordeal of fire, and we will be doing a great deal to lessen the dangers and ills of the human race. Let the Crematory take the place of the Cemetery, and we will in some degree protect our children's children from being obliged to suffer the loathsome and deadly diseases which in this age afflict ourselves. Nor, on due consideration, ought this suggestion to shock the sentiment of the most refined and delicate mind? Think! To what does sepulture condemn these mortal shells we call our bodies? To a slow and gradual resolution into their elements of gases and earthy matter. And while this process of resolution is going on, requiring, as in many instances it does, years of time, the foul decomposing mass is but a putrid abomination to all humanity, a festal hall for the most loathsome forms of created beings, a source of horror and disgust to the minds and thoughts of loving friends and relatives. But expose this same semblance of mortality to the purifying chemistry of the crematory, and in a few short minutes you have accomplished the work which has required months by the slow process of nature. The same resolution of animal matter into the elements has taken place, but not in the same protracted manner, and unaccompanied by the same disgusting surroundings, and without danger of producing the same destructive and lethal results. "Dust thou art, and unto dust shalt thou return," would then be made a rapid and literal fulfilment, instead, as now, a partial carrying out of the Divine decree. Our cemeteries would then be lovely and healthful pleasure grounds, where the contemplation of the last resting-places of our beloved dead would be indulged in without danger, and free from the shuddering consciousness of the horrors of decay adding its harrowing and loathsome reminders to our grief. Public funerals would cease to be the media of the spread of contagious disease. And when the cinerary takes the place of the coffin, the most sensitive and affectionate of human beings can calmly contemplate the last resting-place of mortality without danger and without disgust. Let it be our mission to educate the opinions of both ourselves and the public towards this disposition of all animal remains as a measure both of public hygiene and of æsthetic fitness.

Within the domain of State Medicine, and belonging specially to the department of those who make a study of mental and nervous diseases, there still remains a form of disease which has too long received insufficient attention, and whose claims I wish to urge upon you in a few brief remarks.

As a question of political economy, and because of its effects upon the social fabric of society, none of the problems of civilization have aroused greater interest, have demanded more thoughtful consideration, have excited the passions and fanaticism as well as the earnest prayerful enthusiasm of mankind, to a greater degree, than the abuse of alcohol in all its kaleidoscopic forms. How to use it, and how not to abuse it, are questions in the answering of which as individuals and as citizens we must necessarily take a more or less degree of interest, in proportion to the sense of duty towards our fellow-man which actuates us, or the keenness of perception of its importance to the State, the community, and the family, with which we are gifted. But it is not my intention to dilate upon this aspect of the question, as this is not the time or the place for its consideration, or for a dissertation upon the civil, social, and personal effects of alcohol. Neither, if it were, would I have the inclination to write, or you the patience to listen to, any such discourse. But there is a problem connected with the subject which has a purely medical aspect, and which belongs to us as a professed body of healers of the sick, to endeavor to solve. By its solution we will do not a little to lessen the difficulties which stand in the way of our legislators and reformers, to reduce the number of criminals and paupers, and tend to reduce the number of inmates in our county houses, jails, and insane asylums.

The question is, what can we do to restore the inebriate to a condition of moral, mental, and physical health? Let us successfully answer this question, and we at once reduce crime from sixty to eighty per cent., largely diminish the expenses of the commonwealth, add immensely to the wealth of our State, and greatly reduce the death-rate consequent on diseases of the liver, stomach, kidneys, lungs, and brain. And this I look upon as purely a medical question. Upon us as medical men rests the responsibility of satisfactorily answering it. Shall it be said that we are, and always will be, unequal to the task? In view of the stupendous benefits to be obtained, are we just to ourselves and to others if we longer delay in fairly grappling with the difficulties, and by care and study overcoming them? Although we have ever been fearless in the pursuits of our art, eager to grapple with the mysteries of pestilence and disease, pursuing our investigations regardless of personal risk, alike through the slums of the city, the purlieus of the camp, and the pesti-

lential holds of the ship, we seem to have relegated this disease to the care of the political economist, the poor-law commissioner, or the civic judge.

We are all familiar with the result of treating the inebriate as a felon—thrusting him into the work-house or the jail for a few weeks or months, and then sending him out with enfeebled mind and body to encounter the temptation of his appetite, without having obtained any physical or mental strength to resist its depraved instincts. The frequent repetition of this course soon produces a real criminal, or else ends in a pauper's grave, or an insane asylum. We have also seen the effects of expending large sums of money in the maintaining of elegant asylums, which will serve as delightful retreats within whose pleasant and even luxurious retirement the inebriate can recover from the effects of a season's indulgence, and from which he issues after a period of enforced abstinence, with his physical energies recruited, but with moral and mental faculties still enfeebled, only to resume his evil habits after a brief interval of reason. Neither the penitentiary, nor the asylum—the one a representative of physical force, the other of moral suasion—has as yet proved effective. Yet, perhaps, it will be to the latter, in its proper development, that we must turn to accomplish our end. What is the medical problem which we have to encounter? Given: A man diseased in mind and body, with his nervous system debilitated and deranged, and his physical organs changed and disordered; how can we cure him? The investigations and careful studies of Dr. Crothers, of Hartford, would seem to throw light upon the direction in which we should begin our efforts, and I would suggest the careful study of his thoughtful papers on this subject to those who have not already perused them. My own aim is not to elaborate a plan of treatment, but simply to suggest the subject as one worthy of the attention of those able and experienced men who make mental diseases a study, who, when their attention is once elicited, will doubtless soon demonstrate a practicable course of treatment for the accomplishment of so important a purpose. Since our efforts during the past fifty years have resulted in such remarkable benefit to the insane, the feeble-minded, and other wards of the people, let us study to accomplish as much in the near future for the equally unfortunate and irresponsible victims of alcohol.

Among the boons which the science of medicine has conferred upon the human race, none has proved greater, or has better endured the critical tests of time and experience than the prophylactic power of vaccination. Yet even here the fashion of the day has made its changes; the experience of years has been overslaughed by the desire for novelty, and the well-proved powers of humanized virus have been buried, and almost forgotten, under the plausible theories and loud assertions of the advocates of exclusive animal vaccination. During the past ten years humanized virus has been nearly driven out of use, and, in spite of generations of experience, has been almost entirely supplanted by the presumably purer and more potent animal virus. But unless greater care is exercised in the production and preservation of this favorite virus, and intelligent inspection and jurisdiction is exercised over all vaccine farms, the time is not far distant when the advocates of exclusive animal vaccination will see their "vaccine boom" share the fate of the numerous plausible theories which have had a brief existence, but have failed to endure the crucial test of long-continued and careful trial by the profession. A brief recital of my personal experience with animal vaccination, although doubtless identical with that of most, if not all, here present, will not be out of place, and will serve to explain my remarks on this subject. Although entirely satisfied with the purity and efficiency of humanized virus as cultivated and carefully selected by myself, I had, during the past ten years, at first partially, and then entirely, abandoned its use; yielding my experience and convictions in part to the theoretical purity and efficiency of animal virus, and in part to the fashionable outcry for its employment. The uncertainty of the action of animal virus, and the frequently recurring necessity for its renewal, I found wearisome and discouraging. The brief period which elapsed after a successful vaccination before the subject became susceptible to a revaccination argued a weak prophylactic power, which argument was not weakened by the occasional occurrence of varioloid shortly after a successful vaccination. But I still persevered, for I felt it my duty to give my patients what was considered the purest and best means of prophylaxis that could be obtained. Still I could not but feel that the entire failure of at least thirty per cent. of all my primary vaccinations was discouraging, and the necessity of going over the same ground again and again was, to speak mildly, monotonous. During the winter of 1881 and 1882, small-pox was epidemic, and its loathsome wave rolled over the entire country. Almost every individual in my section demanded

vaccination, and it was necessary to obtain material from every source of supply within my reach. The result in many cases was the production of an unhealthy and poisonous sore, often phagadænic, and always inflammatory, which gave great trouble and frequently took weeks to heal. These cases all suffered from severe systemic disturbance, which in some cases was not without danger to life. When finally healed, the cicatrix in some cases became the seat of an erectile tumor which resisted all measures of destruction, and was finally removed by extirpation with the knife. Had this experience been personal to myself alone, it would have proved disastrous to my practice and reputation; but it was a common experience to all practitioners in my neighborhood; and the universality of the misfortune was our protection from public reprobation. An experience of nearly thirty years use of humanized virus had shown me that it possessed great protective power against variola, together with certainty of action, and freedom from any such effects as above described. Less than ten years' use of animal virus has led me to believe that it is uncertain in its action, that its protective power is not so lasting, and that at times it was not free from a liability to produce disastrous effects. I have strong doubts whether any protection from variola has been obtained in those cases wherein the inflammatory sore above described was produced; but I have no doubt whatever, that it would now be difficult, if not impossible, to induce the sufferers to submit themselves to another vaccination. So far as I have collected the testimony of the medical men in my vicinity, their experience has been similar to my own, and their faith in animal virus has received a rude shock. I repeat, then, my assertion as to the necessity of expert inspection and control of the sources of animal vaccinia, as a necessary feature of State medicine, and as a protection against the possibility of diseases scarcely less to be dreaded than small-pox itself.

The subject of medical education has been so often discussed before you, that were I to occupy your time with an elaborate presentation of its necessities, I would, I fear, only weary you by a repetition of remarks with which you are already familiar. The importance of a firm foundation being first laid in the preliminary education of the student is recognized by all; and the best means of effecting this, and the standard which shall be required of all who essay in the future to enter the profession, is a subject of consideration and action by you at this session. I have no doubt that you will arrive at a conclusion both wise and practicable. I simply allude to the subject with a view to making a single suggestion. It is that the importance of establishing a chair of State Medicine and Hygiene be urged upon all our medical schools; that attendance upon the lectures on this subject be made obligatory; and a satisfactory examination thereon be made one of the requisites of graduation. If we use the influence of this Society for the accomplishment of this advance in medical education, we will do not a little to raise the status of the medical man to a higher grade, as well as to greatly increase his usefulness. If in addition to this we can influence all of our medical schools to insist upon not less than three full years of attendance upon medical lectures before a diploma will be granted, we shall have taken a long step forward on the path of improvement in medical education.

The dilatory appearance of the Transactions of the Society in a published form is a subject of great complaint, and it behooves us to see whether some measures cannot be taken to obviate this in the future. Frequent allusion has been made to this subject, and that it is a serious evil is universally acknowledged; but as yet no successful steps have been taken to seek out a better or speedier way of bringing the valuable papers yearly read before this Society into the hands of its members. Many a practical suggestion which seems to meet a daily or frequently recurring want in the practice of some individual member, can be but imperfectly recorded upon the tablets of memory whilst listening to the rapid reading of a paper, and when required for use the recollection of it has become so blurred and vague as to be of little value. Month after month passes whilst anxiously awaiting the appearance of the Transactions, so that he can read and digest at his leisure the numerous valuable papers to which he had listened in such rapid succession that their impressions were blended upon his mind in one panoramic picture, the individual features of which he is unable to fix and retain. But he waits in vain. The impressions received grow dim. The interest excited on special points of importance in his own practice passes away. And when finally he receives a copy of the Transactions just as he is arranging his business, and his linen, to again take his seat in the State Society, his interest in it has vanished, and he lays the work upon his table with regret that its usefulness to him has, in part, gone by. Is there no remedy for all this? Which one of you gentlemen would submit to such delay in the publica-

tion of a work of this size, were it the creature of your own brain and handiwork? What publisher would dream of protracting the issue of so small a volume beyond a period of sixty or ninety days, were *you* or *I*, as individuals, its author, and interested in its publication? Why then should the 1800 members of this Society be obliged to suffer from such delay? But if it is said, and *proved*, that as now published this delay is unavoidable, and arises from sources outside of the printing-house, then we should inquire some better and prompter way of distributing among the members the numerous valuable and practical essays which render our sessions so interesting. One way might possibly be to reduce the number of the committee on publication to one active member, and paying him a suitable compensation for his work, proportioned to the promptness with which it is executed. Another method would perhaps be to learn a lesson from the course about to be undertaken by the National Medical Association. I do not mean that this Society could advantageously establish a journal of its own, nor do I believe any such course necessary. But I think it not impossible that an arrangement could be made with one of the already well-established weekly journals of the State, which would prove of advantage both to the Society and to the Journal. I am informed that the expense of publishing our Transactions in their present form is about $1600. The payment of but little more than half this sum, together with granting the exclusive privilege of publishing the valuable papers which are read before the Society, would probably be a sufficient inducement to one of our medical journals to lead them to to furnish a copy of their journal either free or at a greatly reduced rate. Increase of circulation and of advertising facilities, together with a liberal supply of the best of material for their journal, would result to the advantage of the journal. The early access in print to papers of personal interest, and a weekly journal at a cheap rate, would redound to the advantage of the members of the Society. Our Minutes could then be published by the Society in a small and inexpensive pamphlet, over the production of which the publishing committee would be allowed to spend 364 of the 365 days which elapse between our sessions, and never hear a whisper of complaint. Neither of the measures here suggested may in your judgment be suitable; but if my remarks shall have any influence in causing you to evolve a feasible means of removing this source of complaint, they will have fulfilled their end.

The action of the medical society of a neighboring State in throwing down the barriers which have been so long maintained between the science of medicine and legalized dogmatism, received from you at your last session an expression of unanimous disapproval. The renewal of this action by the same Society, together with their refusal to appoint delegates to the National Association, and thus practically seceding from its fellowship, demands that you should again express your reprobation at their persistence in wrong-doing, in language that cannot be misunderstood.

Action which has met with remonstance, and unqualified disapproval, from every other medical society, cannot but result in placing that society in a position of antagonism to the opinion of the entire medical world. Let us speak then in no uncertain tone of voice when we express our condemnation of action which arrogates to a subordinate body powers which belong only to the highest associated medical authority in our land, and which renews in a medical form a conflict which, in its political aspect—within the memory of every person here present—deluged our land with blood and exhausted the treasures of our country. I wish here to record my personal protest against that action, as being *unnecessary*, *unjustifiable*, and *revolutionary*.

And now permit me to pause and say a few words to that portion of this audience who do not belong to the profession, but who have been attracted here to-night either by interest in the progress of science, or by curiosity to ascertain the reason for the assembling of so large a number of the best medical men in the State.

If you have listened with patience to the few remarks that I have made, you have learned that, in the main, our object is to consult together and to devise the best measures that science and thought can contrive, to protect you from the onslaught of disease, and to relieve you from its effects when you are attacked. In this battle of ours, which must be waged so long as "human flesh is subject to human ill," you cannot stand by as idle spectators calmly awaiting the result. Your own interests and those of your loved ones are too intimately blended with our aims, to make it safe for you to show any indifference or indecision in action, when such a vital conflict is in progress. Permit me then briefly to show you how you can aid in promoting the noble aims and objects of this Society, and become co-laborers with us in this conflict with disease.

And first, let me request your aid in the proper education of physicians, so that they may be

thoroughly fitted for the work that lies before them. How can you render efficient help in this direction? I answer: by forbidding and discouraging your sons, brothers, and acquaintances from commencing the study of medicine before they have undergone such careful preliminary education in classics and the natural sciences, as will fit them to understand and fully master the intricacies of the art and science which they expect to make their life-long work. Urge upon them that they become well grounded not only in the elements of a good common school education, but also in mathematics and the natural sciences; and that they also obtain a familiar knowledge of Latin and Greek, and if possible, of the modern languages. All of these studies are but a necessary preparation to the proper study of medicine; and without the preparation of mind by this preliminary education, the student is obliged to accept as dicta of his teachers, by faith alone, much that is beyond his comprehension, and which, being the ground-work of all scientific thought and research, should already be familiar to him. Without this he will be forced to go through life handicapped by a lack of education which prevents his mastering his profession, and renders him unworthy of the full trust and confidence of his patients, because ill-fitted to do his duty by them. With as much propriety could you send a soldier into the heat of battle without cartridges, as a student to a medical college without the broad intelligence and trained habits of thought only to be obtained by a broad academic, and if possible, collegiate education. In the one case you expose the soldier to almost certain destruction; in the other you expose yourself to equal danger from the mistakes of a half-educated physician.

With your sons thus properly prepared to enter upon the study of medicine, encourage them to seek for a mastery of that profession which should honor those who enter it, and be honored by every one of you who are so dependent upon it. To this end discourage in them all desire for the hasty obtaining of a diploma, as a license to attach to their name the empty title of doctor, and be privileged by the mystical letters M. D. to feel a pulse and look at a tongue, before they know the true interpretation of the varied beat of the one, or have learned to translate the language of the other. The day has gone when by the graduate of a medical school, which turns loose upon the world a half-educated licentiate, who has spent a few months in a confused attempt to understand a couple of scanty courses of lectures, can take rank with the alumni of those schools which demand three and more years of the closest application from their students; and encourage them if possible to devote, at least, two additional years to the study of their profession ere they launch themselves upon the rough sea of professional life. Demand as your right the highest possible education for the physician of this day; and enforce your demand by refusing to entrust your health and your persons in the hands of the uneducated; and by sending your student sons and brothers to those schools only which afford every facility to obtain a complete education, and which exact of their graduates a complete mastery of the course prescribed.

Again, you can assist in the great aim and object of our work by using all your influence, whether social or political, in favor of all legislation which has for its aim the arrest of the spread of contagious diseases; the purification of the sources of water supply; the abatement of nuisances prejudicial to health; the sanitary inspection and control of school-houses and buildings of public accommodation and resort; and the care and cure of those who, by misfortune or disease, have become incapable of self-protection, and so are wards of the people. By so doing you will be helping and protecting yourselves, as well as us. As individuals, our pecuniary interests conflict with the arrest of the spread of disease. But our moral duties, as physicians, demand that every measure within our reach shall be employed by us which tends to promote the health and well being of our fellow-men. We ask of you, then, to insist upon the passage of all well-devised laws which have this end and object in view. Since no political end can be obtained by the passage of such laws, we are constantly opposed and defeated by the legislators of the State, who raise the empty outcry of "war among the 'pathies" as an excuse to refuse legislation whose sole object is to promote the welfare of the citizens of this Commonwealth. If you will arise to a sense of the importance of such legislation to yourselves and your families, and will bring to our aid all the force of your political, social, and personal influence in demanding such legislation as yours by the divine right of necessity, these laws will be promptly passed; and you will reap your reward in the assured health of your families, and the happiness which is health's sure accompaniment.

Again: Should there happen to be in this audience any persons who, being largely endowed with this world's wealth, are desirous of being

almoners of God's bounty to them, and of promoting the welfare of their fellow creatures by facilitating and cheapening the means of education to our noble profession, it would be the part of wisdom if they were to use such portion of their wealth in endowing chairs in some medical school which has already achieved a well established and deserved reputation, and thus enlarge its usefulness, and lessen the expense of a generous medical education. A few hundred thousands thus bestowed to enlarge the usefulness of such reputable schools of medicine as pertain to the University of Pennsylvania, or to Jefferson College, would be of more widespread benefit than ten times the amount devoted to the establishment of a new college, the necessity of which is only apparent to the mind of the founder, while it would prove to be an equally glorious memorial of the benefactor.

It would be easy for me to add many more hints to the few that I have here outlined, attention to which will make you valuable assistants to us in our efforts of general beneficence, and will return to you in an increase of health and the duration of life, and thus restore fourfold to your bosoms.

Fellow members, in this large gathering of physicians who greet me to-night, it gratifies me to recognize so many individuals, members of each of the two classes of doctors whose labors redound in such honor to our profession.

In the one class are those whose natural bent of mind induces them to pursue the path of minute investigation and research, and with the assistance of the various instruments of precision, chemical analysis, and the numerous measures of physiological and philosophical investigation, carefully search out the secrets of nature, and endeavor to wrest from them the primary cause of sickness and disease. The glorious results of their labors prove beyond a cavil the falsity of the assertion that medicine is not a science. If this were ever true, it certainly is not true in this, our day. A shrewder, more skillful, and more indefatigable body of trained scientists than those who are working in the medical ranks to-day, and so many of whom I see before me to-night, cannot be found in the ranks of any other profession. Full of eager enthusiasm and care-taking determination, they are investigating every branch of their profession, seeking for the primary cause of, and the remedy for, every disease which tends to shorten life. Although sometimes misled when apparently on the right path, there is no discouragement and no retrograding in the general advance. Each one advancing clears some ground for him who follows, and the aggregate of progress constantly adds to the glory of the profession, as well as to the welfare and comfort of man.

To the other class belong those practitioners of medicine, who, starting from the same goal with the first, prefer to devote their lives to the pursuit of their art instead of the science of the profession. These men are the true healers of the sick, who carefully and industriously study the signs of disease and the methods of its cure. By carefully investigating the physical aspects of disease, and studying the effect of the therapeutic means within their reach, they are enabled to store up and record an amount of practical knowledge that at times seems in its insight to be marvellous, and is really that true and only genius which is the result of labor, observation, and thought. These men test and weigh the discoveries of others, and assign them their practical value in the prevention, the amelioration, or the arrest of disease. Possessed of bold and fearless yet cautious minds, trained to self-reliance and judgment by many a single-handed conflict with the many-sided phases of disease, they accept no person's dictum as law, but welcome every plausible suggestion or theory, and weigh, study, observe, and experiment with it until they are prepared to accept and adopt it as a well-proved truth, or reject it as unable to endure the crucial test of practical application.

These two classes of medical men are necessary corollaries of each other. Each is alike an essential element to the progress of our science and art. And although medical thought, as exemplified in the current literature, will naturally vacillate first in one direction and then in the other, true progress is only found in the steady advance of each, side by side and shoulder to shoulder. At the present moment, the advance of the scientific investigator is perhaps the most rapid. Outside of the surgical branch of our profession, which is making such wonderful progress, the microscopist, the chemist, and the physiologist are probably making the most marked impression upon the medical thought of the age. These men are accumulating material with such rapidity that the others can scarcely sift and test it. But the equilibrium will not be long displaced; and meanwhile let it be our aim, each in his own chosen field, to so do his individual part to advance and sustain the noble science of medicine, that those who come after us will look upon our work with gratitude and reverence, as that of men who did their duty to their profession, and who lightened the labors and the cares of their successors.

ADDRESS IN OBSTETRICS,

Read before the Medical Society of the State of Pennsylvania.

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If there is any position within the limits of our profession, where the physician should be held rigidly responsible for neglect or incompetency, it is when he stands at the bedside of a woman in the perils of child-birth. He should never be allowed by law or custom to assume the responsibilities of this position until perfectly prepared, promptly and intelligently, to meet every emergency which, without a moment's warning, an attendant in such cases may be called upon to face, with the ever-present conviction that any mistake or indecision on his part may cost a human life, or doom his patient to months, and perhaps years, of helplessness and suffering, with little hope of relief, and too often with little encouragement or sympathy. To give back to her family the wife and mother escaped from these perils is the highest office of the physician, and one to which he should never dare voluntarily to aspire until he not only fully comprehends the principles which must govern him in his duties, but also the peculiar conditions of the organism with which he is dealing. If there is anything of truth in the recent assertion of a distinguished obstetrical writer, that science is constantly recording new facts, which lead us to the conclusion that there is not a single fibre of tissue nor a single drop of fluid in the organism of the pregnant woman which does not pass through some modification, surely the so-called physiological processes of pregnancy and parturition border too closely upon a pathological condition to admit of being neglected or lightly considered. Nor with the conviction that such is the truth, can any intelligent and honest physician convince himself that his responsibilities are at an end when his patient is safely delivered—an idea which custom has made too prevalent in many localities. Not only the thousand external dangers which now surround his patient, and the vitiated state of solids and fluids, but the essential changes through which the organization of every lying-in woman must pass to free itself from the refuse of the excessive material required up to this time for fœtal sustenance, demand days of close and intelligent watchfulness to see that every organ is performing its proper duty. To those of my hearers to whom a résumè of obstetrical work may seem uninteresting and unprofitable, I offer these thoughts in excuse for occupying the time kindly but injudiciously granted me by the President at our last meeting, in examining some of the more important subjects in obstetrical practice and endeavoring to gather up a few of the crumbs that have fallen from the tables of our masters since any such review has been offered in this Society.

ABORTIONS.

Abortions, from causes unavoidable and from the hands of those harpies, male and female, who hang on the skirts of the profession and earn their daily bread by the nightly murder of the innocents, unquestionably result in more fatality and leaves behind them a train of more serious consequences than any other accident of pregnancy or parturition. Current medical literature abounds in reports of fatal cases, yet it is undoubtedly true that a very large per cent. are never reported. A recent writer has made the statement that over six thousand women die annually in the United States from attempts at induced abortion. In some such cases death probably results from violence, but there can be no question that nearly all cases of death from abortions, avoidable and unavoidable, are the results of retained secundines. Our standard works on obstetrics almost universally leave too much to the discretion of the accoucheur, as to their immediate delivery, and with such authority, joined with the entreaties of his patient and a fear of harmful interference, an inexperienced attendant is too strongly tempted to adopt an expectant treatment. Obstetrical and other journals have been replete, during the last year, with warnings against the fatality of such a course, and the opinion is rapidly becoming universal among the members of the profession that immediate and complete evacuation of the uterus by dilatation, forceps and curette, if need be, is the only protection against hemorrhage, septic poisoning, and many other accidents liable to arise from their retention. J. Braxton Hicks, in the London *Lancet*, advises this course under all circumstances, except when the patient is utterly exhausted from hemorrhage, which can be temporarily checked, when it is better to wait till the effects of the shock have passed. This able writer utterly condemns our venerable friend, the vaginal tampon, as inefficient, uncleanly and dangerous, recommending in its place the cervical tampon in the form of a sponge tent or some substitute for it. Dr. T. J. Alloway, of Montreal, in the *American Journal of Obstetrics* for February, 1883, also discards the tampon entirely, and strongly advocates immediate dilatation and the use of the curette in all cases of retained placenta in abortion; and in the same journal, Dr. Paul F. Mundé uses this forcible language: "The future safety of the patient demands that the secundines should be at once removed after expulsion of the fœtus in every case of abortion in which such removal can be accomplished without force sufficient to injure the woman." In support of this assertion Dr. Mundé reports fifty-seven cases in which he resorted to immediate use of the curette and forceps in thirty-one, and to the tampon in only two. Notwithstanding this high authority, I think a large majority of the profession are still in favor of an early use of the vaginal tampon in abortions, but if not used *early*, all agree it is worse than useless. The general practitioner, as a rule, can have no knowledge of his case until he finds himself confronting a violent hemorrhage, which will admit of no delay. The tampon can readily be obtained, and when properly applied, can be relied upon to control the hemorrhage. It can be easily removed and reapplied as often as cleanliness or disinfection may demand. By pressure and reflex irritation it becomes a safe and valuable aid in dilatation of the os, and in a majority of cases where it is used, before possible danger can threaten, we shall find the entire contents of the uterus lying in the vagina, thus rendering further operative interference unnecessary. If this does not occur within thirty-six or forty-

eight hours, we cannot too strongly urge without further delay the dilatation and complete evacuation of the uterine cavity. I have always found the sensitive and educated finger the safest and most convenient instrument for this purpose when the os can be sufficiently dilated, otherwise I would resort to the curette and placental forceps.

FORCEPS.

Nowhere, unless perhaps in antiseptic midwifery, have we a more forcible illustration of the progress in obstetrical science than in the use of forceps. While a medical student I was told by a distinguished teacher of obstetrics, that in a large practice of more than forty years' duration he had applied the forceps only three times, and I was taught to regard it as a difficult and dangerous operation, only to be attempted as a "*dernier ressort.*" Happily the day for discussing their value is passed, and they are universally accepted as among the most efficient aids of the obstetrician, although there is still reason to believe that in some localities too frequently the agonized cry for help—the lifeless form and desolate home — may justly charge its needless suffering and its lost hopes to an almost criminal timidity in their use. I can offer no more forcible argument against too long delay in the use of forceps than a brief reference to the record of my own practice, where I find no less than seven cases, mostly taken from the hands of midwives, in which the child was ascertained to be dead before the forceps were applied. We cannot fail to express our conviction from personal observation, that when greater reliance is placed upon a skillful use of the forceps by every practitioner and less dependence upon the use of ergot, the mortality in obstetrical practice will yet be not a little reduced. Since any review of obstetrics has been given in this society, Dr. Tarnier, of Paris, has offered to the profession a forceps constructed, it is claimed by the inventor, on scientific principles, with separate traction rods designed to facilitate traction in the axis of the pelvis at the point on which the head impinges; while in the handles he claims to have a sure index to that point. Tarnier's forceps, with its modifications, have excited much discussion among obstetricians, and seem to have been received with favor by many, both in this country and abroad, but so far as I am able to glean the opinions of its American defenders, they all agree that the range of its application is very limited. Prof. Lusk says, "For the upper two inches of the pelvic canal they are applicable, but for the inferior strait and the perineal groove they are most dangerous instruments." The eminent teacher, Fordyce Barker, says, "Tarnier has supplied a want in obstetrical forceps which has never before been supplied, but its application must be limited to just that class of cases where immediate delivery is required and the head is at the brim of the pelvis, or in cases of moderately contracted pelvis. After you reach the curve of the axis of the outlet the instrument becomes a dangerous one, and should be removed." And Prof. T. G. Thomas adds to this testimony: "I have used the instruments where I have had to deliver the head at the superior strait, and have been exceedingly pleased with them, but would not apply them when the head is low in the pelvis under any circumstances. My plan has been to draw the head well down and then complete the delivery with the ordinary forceps." Robert Barnes, Prof. Simpson, and other English writers cordially endorse a modified form of Tarnier's instrument. Certainly an enthusiastic endorsement from such high authorities of different nationalities, must compel us to acknowledge that Dr. Tarnier has presented to the profession an instrument of unquestionable value, and one which will undoubtedly maintain a permanent place in the armamentarium of lying-in hospitals and physicians of a large consulting obstetrical practice. But the important question to be decided by the general practitioner will be, not whether with Tarnier's instrument he may be able to deliver with less expenditure of his own time and strength, but whether its use is absolutely essential to the safety of mother or child—whether without regard to his own convenience, the same result may not be safely attained with the forceps in ordinary use, to which he has always been accustomed, as with the heavier and more complicated instrument of Tarnier in the hands of one whose experience in their application must necessarily be very limited. To aid him in his decision he has the opinions of a large number of able obstetrical teachers decidedly in favor of the older instrument. Prof. Braun, of Vienna, pronounces the forceps of Tarnier of little practical value, and still clings to his old forceps. Prof. Lazarewitch, speaking of the claim that they indicate the direction in which traction is to be exerted, declares that such direction can be indicated by no mechanism possible in the construction of forceps. Drs. Taylor, of New York, Wilson, of Philadelphia, and Reaney, of Cincinnati, do not recommend Tarnier's forceps to the profession for general use, and J. Matthews Duncan, of London, thinks they will never supersede the older form of instrument. Dr. Albert H. Smith, in an exhaustive paper read before the American Gynecological Society, asserts that the principle of Tarnier's instrument is by no means new, and that all the advantages to be gained by it are possible with the ordinary forceps. He thinks no traction should be made in the length of the handles, but that the extractive force should be expended in a firm and steady pressure with the palmar surface of one hand upon the lock in the direction of, or parallel to the axis of the pelvis at the point on which the head impinges, and a steady lifting upward of the handles in an opposite direction. This simple and comprehensive direction of Prof. Smith certainly commends itself to our consideration, and whether or not he succeeds in convincing the advocates of Tarnier of the truth of his claim, surely in his defense of the simpler form of instrument he will have the sympathy of a large number of the profession, so long as the endorsers of the new forceps unanimously admit, that it cannot replace, but must become an adjunct only, to the older form. So far as I am able to determine from my own experience, I think that the simpler forceps, properly constructed and skillfully used, are sufficient to deliver any case to which the forceps are applicable, without serious injury to mother or child. In a tabulated record of nineteen hundred cases of childbirth and abortion, taken from the private practice of my former colleague, Dr. Geo. W. Barr, and myself, I find forty-one cases of forceps delivery

without a single discovered injury to the parturient canal, except an occasional ruptured perineum. I say *discovered* injury, because we have only been taught within the last few years to search for a lacerated cervix after the use of the forceps; and this accident may have happened without being discovered. Dr. Alexander Duke presented at the meeting of the Dublin Obstetrical Society, in June of last year, an appliance consisting of tractors to be attached to any long forceps; and when additional tractile force is required, he attaches to the tractors a belt to be placed around the waist, and thus bring to the aid of the arms all the force of the whole muscular system.

Dr. Cole, of California, and Dr. Grainger, of Massachusetts, each presented a new form of forceps before the obstetrical section of the American Medical Association at the last meeting.

PUERPERAL CONVULSIONS.

The number and variety of therapeutical measures presented to the profession for the relief of puerperal convulsions is conclusive evidence of the inscrutable mystery which continues, despite all research, to surround this dreaded disease. Venesection, the hot bath and pack, quinine in ten grain doses repeated every two hours, morphine hypodermically in two grain doses, jaborandi, pilocarpin, tincture of stramonium in ounce doses, oleum tiglii, bromide of potassium, chloral hydrate, nitrite of amyl, and veratrum viride, are among the remedies which have been extolled, some of them as specifics, during the year just passed by members of the profession anxious to serve science and mankind, and yet, "*mirabile dictu*," statistics show that the death-rate remains practically unchanged. The theories advanced as to the pathology of the disease are so various as probably to render it quite impossible to decide upon any one which will be entirely acceptable to a majority even of the leading obstetricians. It must, however, be evident to all, that no single cause can account for the phenomena in all cases, although undoubtedly in all cases a predisposition to the attack exists in the abnormal condition of both fluids and solids of the pregnant woman. I infer the opinion predominates among the profession, that there is a form of puerperal convulsions in which the nervous system is mainly implicated, and which generally recovers with almost any or almost no treatment, and the suspicion has sometimes forced itself upon me, that many of the reported recoveries, under the use of remedies for the favorable action of which no explanation is given, may belong to this form. That there is a second form, apoplectic in its character, the brain being the principal seat of the lesion, and in which venesection and cathartics are the remedies *par excellence* although in my own hands, possibly from errors in diagnosis, venesection has been almost universally disastrous.

In the records of our private practice already mentioned, I find the report of fifteen cases of eclampsia, in four of which all the symptoms pointing to the apoplectic form, blood-letting was early and freely resorted to with a fatal result in three of the four cases. I can only claim the consolation of hoping, not on account of, but notwithstanding the treatment. In the MEDICAL AND SURGICAL REPORTER of January 6, 1883, I find a report of four cases treated by venesection, resulting in two deaths and two recoveries; nor are these the only records that have fallen under my observation during the year, in evidence that venesection is no specific in this disease. A third form, more fatal in its immediate results, and more serious in its remoter consequences than either of the former, is the uræmic puerperal convulsions. Many prominent contributors to recent medical literature, among whom I find Schröder, of Berlin, Ingerslev, of Copenhagen, and Halbertsma of Utrecht, consider a large per cent. of puerperal convulsions to be of this form, due to retention of the urea from pressure or other interference of the renal circulation. I must confess my inability to discover any generally accepted plan of treatment in this form of the disease. I have seen about thirty cases reported during the year, and the variety in treatment has been nearly equal to the number of reporters. Prof. Schröder considers it an extremely dangerous and fatal form of the disease, and most urgently advises to terminate labor at once when albuminuria makes its appearance during pregnancy. (*Amer. Jour. of Obst.*, 1881). A prominent English writer on this subject says, "with our present knowledge of the disease we have no better plan than to follow the same general line of treatment as in uræmic poisoning in other forms of acute nephritis." Carl Breus, of Vienna, expresses great confidence in the hot bath and pack, and reports several cases promptly relieved of the œdema by this treatment, while for the eclampsia he considers chloral hydrate the sovereign remedy. Combined with such remedies as circumstances in each individual case might indicate, I believe no more rational plan of treatment has been proposed for the uræmic form of convulsions. Venesection also has its advocates in this as in other forms of the disease. When our cases can be watched and venesection be resorted to as a prophylactic at the first warning of trouble, I have no doubt, by relieving the blood pressure and thus arousing the organs of excretion into renewed activity, it may be of much value in warding off the attack, but for the relief of an established uræmic eclampsia, I must confess I should approach this remedy as a doubting Thomas. Dr. Barr and myself in our small experience of fifteen cases, have made it our invariable rule when pregnancy was near its term to deliver as rapidly as was consistent with the safety of the patient. We seemed to have obtained better results from large doses of chloral hydrate and bromide of potassium than from any other internal medication, in which our field of experiment has been somewhat extensive. Dr. Thomas Wilson has recently reported in an English journal, the rapid disappearance of albumen and a marked improvement in all the attendant symptoms in two cases of albuminuria in non-pregnant patients following the use of this remedy. This, of course, cannot be accepted as deciding anything, but should further trial confirm the observation, it may lead to an explanation of the favorable action of chloral hydrate in uræmic convulsions.

SUPPORT OF THE PERINEUM.

If to support means to watch over and protect

from harm, I have failed to observe in recent medical literature any expressed opinion which would lead me to the conclusion that perineal support has any opponents. I have been able to distinguish in the various discussions very little more than a difference in methods to attain the same results.

Dr. Theophilus Parvin advises placing the woman on the left side during the second stage of labor, encouraging frequent respiration, and preventing all bearing down efforts, by anæsthetics if necessary. He objects to the use of the fingers in the rectum, as tending to increase excitability and nervousness, and advocates direct support of the perineum with the naked hand. If rupture seems inevitable, he would resort to episiotomy to save the anal sphincter.

Dr. A. H. Smith finds a solution of the problem in the management of the head rather than in direct support of the perineum. He diverts the strain from the raphé to the lateral parts of the perineum by making pressure with the thumb and fingers upon the presenting part of the head as it presses upon the raphé, thus changing the shape of the head, and relieving the tension at the threatened point. When the danger of rupture is imminent, he does not hesitate to make the lateral incisions, but applies to the cut surfaces a strong solution of carbolic acid to protect against absorption.

Dr. W. T. Howard, of Baltimore, has found nothing in his experience which acts so promptly in relaxing the perineal tissues, and permitting a safe passage of the head, as placing his patient profoundly under the influence of an anæsthetic. I have frequently convinced myself of the value of this plan, but would suggest strongly emphasizing the modifying adverb, lest the inexperienced thereby come to grief. Anything less than profound anæsthesia loses control of the patient's will, and the natural inclination to expulsive efforts becomes uncontrollable and irresistible.

After a fair trial of several plans, I have found no more efficient method to control the head and protect the perineum than that described in this society, I think by Prof. Goodell, of passing the fingers into the rectum, the patient being on her back, and directing the head into the axis of the vulva by pressure on the forehead and face as they are forced down, and at the same time watching the presenting part with the thumb, making backward pressure upon it when required. I think also that we should always recognize the fact that variations in the pelvic formation, as well as in the part presenting, must, in some measure, modify the amount and direction of the counter-pressure used. I do not hesitate to say it has been my experience to observe more serious injuries from the head being forced violently through the vulval orifice with an unprotected perineum, than from a careful use of the forceps. Immediate operation is almost universally advised in torn perineum, and not least among arguments in its favor is the aphorism, "a bird in the hand is worth two in the bush." I now know several women who drag out a weary existence with a floorless pelvis rather than submit to a secondary operation. To obviate this misfortune, Dr. Dyhrenfurth, in two cases of primary union, has powdered the surface of the wound with iodoform, and immediately reapplied the sutures, with a favorable result.

EXTRA-UTERINE PREGNANCY.

Until within a few years, the unhappy victims of this misfortune were considered almost beyond the aid of science. Early diagnosis was exceedingly uncertain, and later interference a forlorn hope; but thanks to the introduction and perfection of antiseptic measures, a new era has dawned in operative surgery of the abdominal cavity, which is now explored with a boldness and confidence that a few years ago would have been considered little less than criminal, and the successful treatment of extra-uterine pregnancy has been one of its brilliant results.

Dr. A. D. Rockwell, of New York, has recently published an interesting report of seven cases in which the vitality of the fœtus was successfully destroyed by the use of electricity.

Dr. Rockwell considers galvanism the preferable form, and thinks the strongest current compatible with the safety of the woman insufficient to induce abortion. Several other cases successfully treated by this method have been reported, but so far as I can learn neither a failure nor an accident.

Dr. Fränkel advises the early destruction and absorption of the fœtus by the aspiration of the sac and morphine injections. As this plan in the uncertainty of an early diagnosis must be attended with more or less danger, electrolysis would seem the surest and safest measure yet proposed to destroy the vitality of the fœtus, the most efficient to hasten absorption of the fœtal tumor, and in case of error in diagnosis harmless to disturb a normal pregnancy. When we consider the slight probability of saving the life of the child, and the magnitude of the dangers which constantly threaten the mother, it becomes our evident duty to resort to this safe and simple plan of treatment at the first suspicion of extra-uterine pregnancy.

From an analysis of twenty-one cases seen by himself, Prof. Thomas recommends the destruction of fœtal vitality by electrolysis, if discovered before the end of the fourth month. If operative interference were demanded later, he would resort to laparotomy or elytrotomy. In abdominal pregnancy, he would wait for the full term of gestation, and deliver by the same methods; but when the full term is passed, and the fœtus dead, he would allow nature to choose an outlet, standing by to aid or anticipate her as circumstances might demand. In rupture of the fœtal nidus, he would still intrust the case to nature, but with the strictest vigilance, and if hemorrhage or blood poison threaten the life of his patient, he would promptly resort to operative interference. The hemorrhage inevitable in the removal of the placenta and the danger of blood poison from its being left behind, renders laparotomy, in the opinion of Prof. Goodell and other operators, extremely hazardous during fœtal life.

Dr. Martin, of Berlin, has endeavored to meet this danger by ligating the placental base *en masse* before removal. He then resects, as far as possible, and closes the sac-walls, cutting off all connection with the abdominal cavity, and draining through the vagina.

OXYTOCICS.

The use of ergot as a uterine stimulant in labor can claim few if any advocates in medical literature, although its value in maintaining post partum contractions and hastening uterine involution is attested to by many of our writers. Dr. Chahbazian, of Paris, has described an alkaloid of ergot which, given hypodermically in a maximum dose of one-fiftieth of a grain, is followed by no abscess or induration, and produces certain and firm contractions in from two to five minutes after its introduction. Such an alkaloid, if easily obtained and preserved, would be of great value in post partum hemorrhages, in which ergot, in its usual form, is almost valueless, from its slow and uncertain action.

There has been much and earnest discussion during the year as to the value and danger of quinine during pregnancy and labor. Dr. Bardell, of Colorado, is positive that it is not only harmless during pregnancy, but is one of our most trustworthy resources in threatened abortion, and after a trial in more than sixty labors, he pronounces it the safest and most reliable oxytocic at our command:

Dr. Campbell, of Georgia, after a long experience, writes, instead of withholding quinine from a fear it may produce abortion or premature labor, "I give it most punctiliously to prevent abortion in the malarial district of the south. Others have urged with equal earnestness that it is dangerous during pregnancy, and useless during labor. With such diversity of opinion, it would seem that until the medical millennium dawns, we must mainly rely upon our own experience and observation. I have given it in moderate doses in all stages of pregnancy for more than twenty years without observing a single unfortunate result, and in protracted labor with uterine inertia, I have thought it rendered positive and substantial aid."

LACERATION OF THE CERVIX.

The causes, symptoms, effects and the operation for the relief of this lesion, were so fully treated at a recent meeting of this Society, that no extended review will be in place or attempted by me. The subject has called out much discussion both in this country and abroad, and since Prof. Goodell's able address many data have been collected bearing on the results of the operation. While it seems evident that the operation may have an important influence as a cause of sterility, we cannot, on this account, condemn it, as it is by no means certain that the condition which demands it may not be as disastrous to successful pregnancy as the operation. So far as I can form an opinion from published reports, I conclude the liability to a second laceration in subsequent labor is very little increased. Evidence has accumulated that carcinomatous degenerations frequently take their origin from this lesion, and the possibility of preventing this dreaded disease alone justifies the operation.

To the accoucheur, we briefly suggest, as precautions, the same watchfulness in the use of the forceps within the os, as he employs to protect the perineum—the substitution of tireless patience for the injudicious use of ergot—anæsthetics in precipitate labors, and opium or other sedatives in tedious first stage of labor.

POST PARTUM HEMORRHAGE.

I can offer no more conclusive evidence of the dangers from post partum hemorrhage than the official report that four hundred and ninety-seven women died, in Great Britain alone, during the year 1881, from this accident; and many who survive, says a celebrated obstetrical writer, if they ever regain their health, do so after a long and perilous struggle. Several valuable papers have been added to the literature of this subject during the last year, which rather discuss the remedies already before the profession, and attempt to settle disputed questions as to their value and safety, than to present any new methods of treatment.

In reviewing the literature of the accident, I could but be forcibly struck with the truth of Prof. Thomas' remark, that so many individual remedies for hemorrhage have been brought forward, that the student is utterly dazed when he comes to the scene of action; and even men of large experience are often seized with hesitation concerning the common-sense line of practice by which they should be guided at the bedside. Failing by ordinary means to produce firm uterine contractions, Prof. Thomas carries the hand, thoroughly cleansed and dipped in strongly carbolized water, into the uterine cavity, sweeps everything out, and irritates its walls by passing the palps of the fingers over their internal surface. He believes no remedy to be compared to this simple plan in producing prompt uterine contractions, and if resorted to before the nervous system is entirely prostrated, it will check post partum hemorrhage in ninety-nine cases out of a hundred. In one case, where all other means had failed, he produced immediate and firm contraction, and probably saved the life of his patient, by passing a strong current of electricity through the womb, and he urges a more extensive trial of this safe and easily-obtained remedy. He does not favor intra-uterine injections, but when resorted to, prefers tincture of iodine, or still better the common vinegar, as recommened by Dr. Penrose, of Philadelphia, to the iron, as introduced to the profession by Dr. Robert Barnes which he would utterly reject, except as a last resort.

Dr. F. M. Madden, of Dublin, makes the statement of practical value, if supported by other observers, that the condition of the circulation is of much importance as an early indicator of probable hemorrhage. He has never observed a permanently quickened pulse during labor—that is, a pulse not regaining its normal rate during the interval of pains, that post-partum hemorrhage did not follow unless avoided by proper preventive treatment. Dr. Madden admits the dangers attending the intra-uterine injections of iron, but thinks we meet with cases in which the immediate danger of death from hemorrhage outweighs the dangers from the use of the styptic. Many prominent obstetricians still condemn, under all circumstances, the iron injections; but I believe a large majority of the profession agree with Dr. Madden that when other treatment fails and death seems imminent, we are justified in its use, with proper precautions.

PLACENTA PREVIA.

In no emergency which the physician is called

upon to meet in the discharge of his duties can it be said with more truth than in placenta previa, that the first requisite of the accoucheur is an ability to recognize instantly what can and what cannot be done. My own experience in this alarming accident has been very limited, but sufficient to convince me that no fixed plan of treatment can be followed in all cases. Hofmeier, of Berlin, has recently published a report of thirty-seven cases under his care, with the unprecedented mortality of only 2.7 per cent. He rejects the tampon, and relies mainly on the Braxton Hicks method of version, bringing down the feet, checking the hemorrhage by the pressure of the buttocks. In all cases, he gave ergot hypodermically, and washed out the uterine cavity with a five per cent. solution of carbolic acid. Among general practitioners I think eight out of ten still adhere to the tampon, unless special indications point to some other line of treatment. I have seen no more simple plan than the one advised by Prof. T. G. Thomas, of a tampon formed of a conical linen bag, stuffed with carbolized cotton (possibly styptic cotton might take the place of the the carbolized), the apex of which is forced into the os as far as possible, the vagina packed around it, and firm pressure maintained by means of a T bandage. We thus aid coagulation, dilate the cervix, and compress the bleeding vessels. As soon as the os is dilatable, if the hemorrhage is not entirely controlled, deliver at once. When the tampon fails, he resorts to Simpsom's method of removing the placenta, and leaving the child to be delivered by nature.

ANTISEPTIC MIDWIFERY AND ITS RELATIONS TO PUERPERAL FEVERS.

In no other department of medicine or surgery does antisepsis, in its broadest sense, play so important a role as in midwifery. Many physicians with a large surgical practice, embracing severe fractures and lacerated wounds of a character so extensive and serious as to jeopardize life, have rarely, or perhaps never, met with pyæmia as the result of such injuries, while there are very few who have not seen more or less fatality from the justly dreaded diseases, puerperal fever, septicæmia and pyæmia in women who have passed an easy confinement, without prostration or cause for alarm. In seeking for an explanation of the causes for the extraordinary dangers which overshadow the puerperal woman, it at once becomes evident that the external causes are far less potent than some intrinsic condition to be sought for within the organism of the patient herself; and when our attention is turned in this direction, we cannot fail to discover the object of our search. During the months of pregnancy the maternal organism is called upon to perform a double task, of self-support and the providing and elaborating material for the nutrition of the fœtus. The increased work of nutrition must necessarily be supplemented by an increased exertion on the part of the excretory organs, to free the system of the excess of débris resulting from the additional demand for constructive material. As the term of pregnancy approaches, these organs, encroached upon by the expanding uterus, are pushed from their normal positions and crowded against the surrounding tissues, their circulation is interrupted, and their energies are paralyzed to a degree that renders the proper performance of their duties impossible; and too often the system, overcome by the accumulated refuse, falls a prey to an attack of eclampsia. If the pregnant woman escape these dangers, the final act of parturition leaves the system prostrated by its preceding herculean labors, the blood under the most favorable circumstances vitally impaired, and if perchance a severe hemorrhage has occurred, in a still more deplorable condition.

The importance of post-partum hemorrhage in this connection, and the accepted fact that puerperal fevers are very liable to follow this accident, is too frequently overlooked in the immediate triumph of having delivered our patient from a present and alarming danger. It would seem that the overworked system might now be permitted to recover its exhausted energies, but physiological laws have otherwise ordained. The processes of building up and maintaining a new life have now been completed, and the material required for this purpose has not only become superfluous, but is rapidly to become an active source of self-poison, unless promptly removed, and the organs of absorption and excretion are required to perform this extra service. We here have an organism in the most unfavorable condition to resist the shock and ravages of an inflammatory process, but in the most favorable condition for the lighting up of such inflammation at the least indiscretion. If I have succeeded, however imperfectly, in reproducing a recognizable picture of the female organism during the pregnant and puerperal state, a slight examination of its salient points cannot fail to discover why a *materies morbi* which a non-puerpera will resist with slight disturbance, will in the puerpera light a fire which all the skill of medical science may fail to extinguish.

To this disturbed condition during pregnancy, and a failure to maintain a proper balance between the organs of absorption and excretion during the puerperal state, must be attributed most of the fevers of a more or less serious character which are so frequently observed after confinement, and for which we can discover no assignable external cause; and if antiseptic midwifery in its widest significance means an attempt to prevent blood-poisoning, whether *endosepsis* or *exosepsis*, it is evident its surest foundation must be laid during the latter months of pregnancy. Added to these certainly not fanciful dangers, are other important factors. Within the uterus we have an extensive wound with its open vessels, caused by the cleavage of the placenta, and along the parturient canal lacerations more or less severe, probably in nearly all cases present in some degree, all open doors for the unobstructed entrance of any poisons left within their portals or conveyed to them from without by the hand or instrument of the careless accoucheur or ignorant nurse. Dr. Barnes has suggested a still more extensive, and it seems to me, dangerous route for the transmission of poisons, in the whole surface of the mucous tract, denuded of its epithelium and constantly bathed in the infected fluids.

When we seriously reflect on these inevitable dangers, the important question must force itself upon us, how is the lying-in woman to be best

protected from them? and recent experience in medicine and surgery would seem to indicate that it is to antiseptic midwifery we are mainly to look for a solution of the question, preceded and rendered more effective, as I have already said, by the strictest watchfulness during the later months of pregnancy.

Having brought our patient to the moment of labor under the best conditions to resist the effects of poisons from within or from without, we should, during labor, rigidly adhere to the antiseptic laws which govern surgical operations within the abdominal cavity. The hands of the accoucheur and every other instrument which is to come in contact with the parturient canal, during or after labor, should be thoroughly disinfected, and as soon as labor is terminated, the uterus should be firmly and permanently closed by external irritation, oxytocics, and the pad and binder. This Dr. Barnes considers the foremost measure in the scheme of antiseptic midwifery, and says he has for several years been in the habit of giving three times daily for two months after confinement a mixture of quinine, ergot, and digitalis.

The next, and in my opinion by far the most important step, and one which must be taken before putrefactive changes can possibly set in, is the frequent and thorough washing out of the vagina with disinfecting injections of carbolic acid or permanganate of potassium, the application to every fresh rent or fissure in cervix or perineum, where it is possible for septic poison to gain admittance, of a strong solution of carbolic acid; and finally, the closure of the last portal against external infection by a constant application to the vulva of a thoroughly disinfected napkin. These measures are simple, easy of execution, and perfectly safe, and we have abundant proof in support of their efficacy in the reports of several lying-in hospitals published during the last two years. After the second day, Dr. Barnes strongly emphasizes the daily use of intra-uterine injections of a solution of carbolic acid, iodine, or perhaps better than either, sulphurous acid, one part in forty of water, and the same distinguished authority thus summarizes antiseptic midwifery:

"1st. Keep the door shut against the enemy by maintaining uterine contractions.

"2d. Prevent the enemy from forming and collecting by irrigating the parturient canal with antiseptic fluids.

"3d. Eject the enemy as fast as he effects an entry by keeping the excretory organs in activity.

"4th. Guard the lying-in chamber against the approach of foreign poisons.

"5th. Fortify the patient against the attack of the enemy by keeping up due supplies of wholesome food."

The habitual use of intra-uterine injections as a precautionary measure against puerperal fevers, seems to be almost universally condemned in this country, and to number among its opposers many of the leading writers in Germany, where it has been very extensively tested. Hofmeier, in the *Zeitschrift für Geburtshülfe und Gynäkologie*, reports having treated two hundred and sixty cases by intra-uterine injections, many of which suffered from attacks of puerperal fever which he could only attribute to the treatment; and Dr. Max Runge clearly ascribes an epidemic of puerperal fever in the Berlin lying-in hospital to the same treatment resorted to as a prophylactic measure. But when through neglect or from any other cause septic poison has found access to the circulation, testimony of the favorable results of intra-uterine injections has been so voluminous and positive as to render it impossible to reject it.

Unfortunately, no definite course of internal medication for puerperal septicæmia has yet been proposed, which by its success can claim such universal support from the profession. Opium, stimulants, quinine and iron still hold their pre-eminence as remedies. I have noticed several cases recently reported as rapidly recovering under the use of iodoform and salicylic acid. Of the latter I have had no experience, but that the former too often proves ineffectual has been my bitter experience. I think there are many who do not yet despair that more extensive research into the relation of micro-organisms to septic poisons may lead to practical results in the discovery of a more successful plan of treatment in puerperal septicæmia and pyæmia, and cases have been reported which lend encouragement to this suggestion.

At a meeting of the Obstetrical Society of New York, April 4, 1882, Dr. W. M. Polk reported the rapid recovery of a case of puerperal septicæmia in the lying-in wards of Bellevue Hospital under hypodermic injections of phenic acid, which had failed to improve under the routine treatment of quinine, cold affusions, uterine injections, etc., and at the same meeting Dr. R. F. Weir reported having used the same treatment with the most gratifying results in cases of septicæmia in the surgical wards of the same hospital. Dr. Sloan, of Glasgow, in the *Lancet* for December, 1882, reports a well established case of puerperal pyæmia, despaired of under the usual methods of treatment, which promptly recovered by the hypodermic use of the oil of eucalyptus, preferred by him to carbolic acid as an antiseptic on account of its non-poisonous character. May we not hope that continued investigation in this direction may eventually result in giving us a more reliable and successful plan of treatment with which to contend against these fatal diseases?

How to Administer Santonin.

The *Med. Press*, April 4, 1883, says that Herr L. Lewin, in a recent paper on the above subject, read before the Medical Society of Berlin, finds fault with all the usual methods of administering santonin. According to his views, it should be given in its least soluble form, *i. e.*, in the form in which it will be the least readily absorbed, as the effect desired is not a general, but a local one. An oily solution of santonin undergoes, according to his experiments performed on animals, not the slightest absorption in the stomach, so that under no circumstances is any trace found in the urine. Almost any kind of oil may be employed, cocoanut oil, olive oil, cod-liver oil, or castor oil. He recommends that 0.2 grm. (3 grs.) of santonin be mixed with 60 grm. (2 oz. *cir.*) of oil and given in four doses. He thinks that a useful addition to the above would be that of an oil contained in santonica, the oleum cinæ, æther., for the reason that all æthereal oils have been shown to act as poisons on the lower forms of animal life.

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D. G. BRINTON, M. D.,
JOSEPH F. EDWARDS, M. D., } EDITORS.

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PUBLIC HYGIENE.

We desice to direct special attention to two subjects treated in the address of the President of the Pennsylvania State Medical Association, which appears in this issue.

1. In reference to a State Board of Health.

He wisely directs professional attention towards its importance, and decries, as all men ought, the flimsy excuse that "war among the *pathies*" has been the cause of its non-creation. He strikes the key-note when he says that it has not been legislated into existence because "there is nothing in it" for our law-makers.

For shame! We must again say, what we have already stated, that our own State and Ohio are the only large Commonwealths in this country that do not possess State Boards. While we are not very strong advocates of state and city health boards, believing that the millennium in hygiene or preventive science can only be reached when we have *national* administration of sanitary matters as we have national control of the postal service, yet, not being sufficiently sanguine to hope that the general public will agree with us, until they more fully realize the value of concerted action in the prevention of disease, we do feel that, under existing conditions, a State Board of Health is a great necessity.

A *good* physician has great influence with his patients; the State Society has 1,800 members; we do not fear contradiction when we assert that if earnest and conscientious efforts were made, each physician could convince at least one hundred men of the value of a board of health. This would bring conviction to the minds of 180,000 men, who, going about, sowing seed, would soon convince many hundreds of thousands more, until the pressure would be so great, and the public desire so unmistakable, that our legislators would be *forced* to give us what we *ought* to have had long since. We would therefore earnestly urge the members of our State Society to pay special heed to this advice of one in whom they have demonstrated their confidence by electing him their president.

2. Dr. Varian calls upon our medical schools

to make hygiene a part of their regular curriculum. We have repeatedly urged this step, and will continue to do so, until the dream becomes a reality. We have in our ranks many men whose span of life is nearly run; men who, by long, busy and upright lives, have amassed more than a competence. In the past, such men have frequently seen fit to erect during life everlasting monuments to their memories by endowing chairs, presenting libraries, or some similar munificence, to testify their high appreciation of our noble science.

We would suggest to such men, that the opportunity now exists to erect a monument to themselves, before the grandeur of which the famed monuments of antiquity would sink into insignificance. A great niche in history is reserved for the name of him who first endows a chair of Hygiene, in an institution whose field of instruction is as broad as is that of some of our leading medical institutions.

Let all men who realize that their sands of life are nearly run, consider seriously this suggestion of Dr. Varian's.

DIABETIC COMA.

The subject of coma and sudden death in diabetes is at present creating much discussion in professional circles in England. The *Lancet*, for April 7, 1883, gives in a leading article a resume of what has been said on the subject, principally by Professor Frerichs, of Berlin, and closes by saying:

The conclusion at which Professor Frerichs arrives is not, then, very satisfactory, but it shows how much yet requires investigation. There are probably various causes in operation, and the first group of cases differs markedly from the others. In it death takes place from cardiac failure; there are no nervous symptoms, and the characteristic odor of the breath and reaction of the urine are absent. It is due to cardiac degeneration, owing to rapid tissue-waste, and other unknown factors which may operate in preventing tissue regeneration. The symptoms of the second and third groups are those of intoxication. A series of changes take place in the blood, the final products of which—aceto-acetic acid and acetone—are known, but the initial products of such fermentation in the blood itself are unknown and difficult to ascertain, from the rapidity with which the process takes place. The value of the paper is enhanced by two elaborate appendices, one by Dr. Ehrlich, demonstrating by means of iodine the invariable presence of glycogen in the renal cells at the junction of the medulla and cortex of the kidneys in diabetes, the presence of the same substance in other tissues and in inflammatory exudations being as constant as in the non-diabetic organism; and the other by Dr. Brieger upon chemical researches with respect to diabetic coma, particularly as to acetone and its allies.

While, of course, it will be very interesting to know the nature of the toxic agency, yet what we more especially want, is the knowledge how to combat it successfully.

THE NEW YORK ACADEMY OF MEDICINE AND THE NEW CODE.

When viewed dispassionately, the scene presented at the recent meeting of the New York Academy of Medicine can only be designated as disgraceful.

The by-laws of the Academy provide that no one can become a member who does not give his adherence to the Code of Ethics of the American Medical Association.

There were among the members many who did not recognize this allegiance, the President and Vice President among the number.

Dr. Austin Flint, Jr., offered a resolution calling the attention of the Committee on Admission to this by-law. In the discussion which followed some of the *distinguished* adherents of the new Code, in their excitement, made use of language unsuited for *gentle*men, even though not directed by any code.

The motion was carried, and some of its opponents, recognizing the inevitable, immediately tendered their resignations.

We confess that we can see nothing but eminent fitness in the resolution—for of what use are by-laws if they are not observed?

TANNATE OF CANNABINE.

A few months since M. Fronmüller presented tannate of cannabine as a very efficient medicament to induce sleep without any disagreeable after effects. The dangers of the abuse of morphine are so great that any other agent capable of inducing similar hypnotic effects would be a veritable boon to the practitioner.

Mr. Hiller has experimented with the medicament, and has found that it gives good results, particularly in the milder forms of sleeplessness. Its effects are less marked in serious cases of delirium tremens, in mania, and in subjects already habituated to narcotics. It may be ordered in powders:

℞. Tannate of cannabine, gr.xv.
Sacch. alb., gr.xx.
M. et divid. in cht. No. iv.
S.—One or more at bedtime.

News and Miscellany.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

The thirty-fourth annual session of the Medical Society of the State of Pennsylvania was held in Norristown, May 9, 10, and 11.

The Society was called to order on Wednesday, May 9, at 9 a. m., by the President, Dr. William Varian, of Titusville.

After prayer by the Rev. Joseph McCaskey, the address of welcome was delivered by Dr. Hiram Corson.

Reports of committees, officers, and delegates to other bodies were made, after which Dr. Oscar H. Allis, from the Committee on Schedule of Subjects for Medical Examiners, presented the following report:

Schedule of Subjects and Requirements of the Medical Society of the State of Pennsylvania. Designed as a Guide to Medical Examiners in Ascertaining the Fitness of Candidates for the Study of Medicine.

The following resolutions from the Committee on Medical Education were adopted by the Medical Society of the State of Pennsylvania, May, 1878:

Resolved, I. That all county medical societies now existing under the regulations of this Society, or which may hereafter be organized, shall, at the next meeting to elect officers, following the adoption of this resolution, or the next meeting of officers, when such society shall have been organized, and annually thereafter, be required to elect three members, to be called Medical Examiners, whose duty it shall be to examine all applicants for admission as students of medicine, under the tuition of members of this Society, and said committee shall withhold their certificate from any applicant, unless he be of good moral character, possess a good English education, and a sufficient knowledge of Greek and Latin to enable him to pursue his studies with advantage. And no member of any county society shall receive any person as a student of medicine unless he present a favorable certificate from this committee.

Resolved, II. That every member of a county society organized or which may hereafter be organized under the regulations of the Medical Society of the State of Pennsylvania, before receiving any person as a student of medicine, shall require him to enter into a contract to pursue his studies for a period not less than three years, and it shall be the duty of his preceptor to present him a certificate, countersigned by the secretary of the local society of which he is a member, setting forth the facts as above stated.

Resolved, III. That it shall be the duty of all members of the profession, holding allegiance to the Medical Society of the State of Pennsylvania, to recommend their students to attend only such medical colleges as rigidly enforce the full three years' course of study in their curriculum, and otherwise conduce to elevate the standard of graduation.

Dr. A. M. Pollock,
Dr. J. L. Stewart,
Dr. I. Pursell,
Dr. S. M. Ross,
Dr. D. P. Miller,
Committee.

With a view to bring the foregoing resolutions again before the Society, and to devise means to make them more effective, a paper was read May, 1881, entitled,

"In what should preliminary examinations consist, and what steps should be taken to make them uniform throughout the State?"*

At the conclusion of the paper, a resolution was adopted for the appointment of a committee to report at the next annual meeting a *schedule* of subjects, on which applicants for permission to study medicine shall be examined by the Board of Examiners of County Societies.*

The chair appointed Drs. Oscar H. Allis, Traill Green, W. R. Finley, J. B. Roberts, W. B. Ulrich.

Report of the Committee.

Requirements.

I. A written statement, previously prepared, setting forth the candidate's course of study.
II. An essay.
III. Writing from dictation.
IV. Spelling—oral, written.
V. Reading.
VI. Geography—Descriptive, physical.
VII. Political Economy.
VIII. History—Ancient, Modern.
IX. Geology.
X. Botany.
XI. Chemistry.
XII. Natural Philosophy.
XIII. Mathematics—Arithmetic complete: Algebra, through quadratic equations: Geometry, through plane geometery.
XIV. Languages—English, standard school edition of English Grammar; Latin, Cæsar's Com., 4; Virgil, 4; Cicero's Orations, 2; Greek; The Reader: Gospels: Xenophon's Anabasis, 2.

At the conclusion of the report, a resolution was offered referring the whole matter to a sub-committee, who should have power to act.

No report was called for from Examiners of County Medical Societies, as many of these were stated to be waiting for the report on Schedule of Requirements.

The amendment to Rules of Order offered by Dr. Mills was adopted, as follows:

Resolved, That Rule IX. of the Rules of Order be amended so as to allow a suspension of the rules by a two-thirds vote of the members present.

Under "New Business," Dr. H. H. Smith, of Philadelphia, offered a resolution designed to express the confidence of the State Medical Society in the *old* code, and to likewise express their decided disapproval of any departure therefrom.

The balance of the morning session was consumed in the reports of committees and the transaction of routine business.

Wednesday Afternoon.

Dr. James Tyson, of Philadelphia, selected for the subject of his address in medicine,

"MALARIAL HÆMATURIA,"

chiefly as it occurs in the Middle States, although he completed his subject by a brief picture of the malignant form of malarial hæmaturia, as it occurs in our Southern States. His paper was based upon a study of seven cases, one of which was an instance of the so called hæmoglobinuria or hæmatinuria, in which there are no red discs in the urine, but simply the coloring matter of

*See Trans. Vol. XIII., Part II., pages 517 and 636.

the blood, resulting from their disintegration and solution. This patient was a negro; the remaining six were white men.

This interesting disease, mainly confined to men, is almost invariably traceable to malarial exposure, and is characterized by the paroxysmal or continuous flow of bloody urine. It may or may not be accompanied by other symptoms of malarial disease, as chilliness, coldness of the hands and feet, pallor and blueness of the face, sense of weariness, etc.

The urine is usually acid in reaction, sometimes neutral, rarely alkaline, always albuminous and contains blood discs and blood-coloring matter, or the latter alone. In the latter case, a granular debris, probably the result of disintegration of the blood discs, is present. Casts of the uriniferous tubules are frequently, but not always, present; they may be hyaline, blood-casts, or red and granular, the latter being formed of the granular debris referred to.

The pathology is theoretical, the malarial poisons being supposed to cause the alteration in the blood and blood-vessels, which permits the transudation of the former. The morbid anatomy is also undetermined, although there is reason to suppose that changes suggesting inflammation are found in the kidney.

The disease has to be distinguished from cancer of the kidney and calculous disease attended with hemorrhage, and from other infectious diseases in which there is hæmaturia and hæmoglobinuria, as well as from the effects of poisons introduced into the blood. The history of the case, and the absence of pain and cachexia distinguish it from the first two, and the other symptoms of infectious diseases and poisoning from the latter. We must first determine whether the hemorrhage is from the bladder or kidney. The presence of casts, when present, point definitely to the kidney as the source of the blood; but they are not always present. Clots of blood rarely attend hemorrhage from the kidney, while they are common in hemorrhage from the bladder.

If the diagnosis is accurately made, the results of treatment are often brilliant. It is that for malaria. Quinine, in doses of three to five grains every three hours when the hemorrhage is continuous, until it ceases. Or, if intermittent, sixteen to twenty grains sufficiently anticipating the paroxysm, should be given. Mercurials may be combined with quinine. Iron, arsenic, and astringents have not been found of much service. The natural waters containing iron and alum may be expected to be of service, such as the Orchors Acid Springs of New York, and Bath Alum and other springs in Virginia, and some have a reputation in hæmaturia.

The "malignant" form of malarial hæmaturia, of which many more cases have occurred in the Southern United States during the past fifteen years, than previously, is much more serious and more fatal. The hæmaturia is here sometimes ushered in with a chill or two, or the bloody urine may appear at once. Large quantities of bloody urine are passed, it is said one or two gallons in twenty-four hours. The urine is porter-like, and the sediment sometimes almost tarry in consistence. There is obstinate nausea and vomiting of bilious and dark matter resembling black vomit. Intense jaundice rapidly supervenes; sometimes in an hour the whole body is stained yellow. The jaundice is hæmatogenetic. There may be fever, hot skin, and temperature of 104° to 106°, but the strength rapidly declines, and the patient often dies in from twenty-four to sixty hours, and if he recovers, convalescence is prolonged. The negro seems to be exempt.

Autopsies show the same intense coloration of the internal organs, and sometimes the spleen is enlarged.

The only curative treatment is by quinine aided by mercurials. Morphia and carbolic acid have controlled the vomiting. Stimulants are necessary.

Dr. R. L. Sibbet, of Carlisle, followed with a paper entitled

"OBSTETRIC NOTES."

The inexperienced graduate in medicine enters upon this department of professional work with a greater degree of trepidation than any other. As surgeon he may call in an assistant, as physician he may deliberate or prescribe a placebo, but as an accoucheur he must be prompt. He has no time to refer to books, nor can he, except in rare cases, ask for a consultation. For these reasons and others which might be given he has need for all the information he can obtain from his preceptor, from lectures and from carefully prepared works on the subject before entering the lying-in chamber.

This paper, specially addressed to the young practitioner, is based upon one hundred consecutive cases of confinement. To show the importance of careful study, as well as the percentage of accidents to the mother and to the child, this number will answer our purpose.

The statistics are as follows:

Number of confinements	100
Primiparous cases	22
Severe labors	7
Rapid deliveries	5
Instrumental deliveries	6
Placenta previa	1
Adherent placenta	1
Inversion of the uterus	1
Unusual hemorrhage	4
Rigid perineum	2
Rupture of the perineum (slight)	1
Puerperal convulsions	1
Puerperal mania	1
Case of twins	1
Mammary abscess	1
Number of deaths	1

The Children.

Number of males	53
Number of females	48
Cephalic presentations	96
Left and right occipito-anterior positions	94
Left and right occipito-posterior positions	2
Foot presentations	2
Breech presentations	1
Left elbow presentations	1
Both hands	1
Cord around the neck causing death	4
Craniotomy	1
Decapitation	1

Syphilitic taint 2
Deaths in utero or soon after delivery 11

These results in a hundred consecutive cases in town and country practice may surprise some who are not in the habit of noticing the particulars of each case as it occurs, whether important or unimportant. I confess that it requires an effort to state before you that even one per cent. of mothers and eleven per cent. of children died in these cases of confinement. It is well known that many physicians never speak of cases which terminated unfavorably in their practice. But how can we be useful to one another if we withhold the essential facts? How can we advance medical science if we do not give the statistics correctly? If practitioners would take notes of their cases, and permit them, as here indicated, in groups of one or more hundreds for publication in our Transactions, very valuable information would be secured. The percentage of accidents would be seen at a glance; inspection and comparison would not be so difficult; the study of statistics in the aggregate would be less irksome.

The most important of these cases may be given in brief; others may be referred to.

The first I shall mention is the case of placenta previa; both hands presented. It was a second child. With the use of anæsthetics and by version, delivery was effected. There was hemorrhage before and after delivery. With the use of restoratives and careful watching, the mother rallied; the child was dead. Profuse ptyalism followed, with the absence of the mammary secretion. Dr. G. W. Reily assisted.

A case of very severe labor occurred, with normal presentation, but contracted superior strait. It was also a second child. I used anæsthetics, and delivered with the Hodge forceps a large lifeless child. I immediately placed it in a bowl of hot water, and used whisky on the bruised scalp. With perseverance in the use of hot water and rubbing, a bright crimson color came to the face and limbs, and respiration was established. The mother and child are living and well.

Another case of severe labor did not terminate so favorably. A young woman of lymphatic temperament, primiparous, distant in the country and neglected by her husband and friends, took, some weeks before her time, diabetes insipidus, which produced eczema of the vagina and pudendum. During these weeks she had neither sleep nor rest. When I was called, there was no time to do much for either complaint. Tedious labor came on, and as soon as possible, I used anæsthetics, and with great effort partially delivered the head of a large child, using the Hodge forceps. I cut the cord, which was twice around the neck, and applied a noose by which an assistant made traction until delivery of a dead child was effected. The placenta was removed without difficulty. Two hours afterwards the mother died from exhaustion.

The case of decapitation, which was also primiparous, may be given. The feet presented. The midwife, making traction too soon, perhaps, succeeded in delivering a large child, except the head. Late at night I was sent for and had to ride three miles. I found a rigid perineum and an unyielding coccyx. It was impossible to produce rotation with the blunt hook, the occiput being under the pubis, so I removed the body with the small blade of my pocket-knife; still I could not produce rotation. I then resorted to a blacksmith in the neighborhood, and succeeded in extemporizing a pair of forceps, with which I produced rotation, and removed the head.

The case of craniotomy may be mentioned. The face presented behind the pubis. The head lodged in the superior strait, and I found it impossible with the strong contractions to produce rotation. To save the mother, I punctured the head and used the craniotomy forceps. The child was removed with great difficulty. Dr. S. P. Ziegler assisted.

The other case of face presentation resulted more favorably. It was primiparous, and the labor severe. Instruments were not used. The mother and child are living and well.

One of the cases of rapid delivery referred to resulted in inversion of the womb. The mother had no time to get into bed, and knelt at the side of it. In this condition I found her. The cord was short. There was profuse hemorrhage, but the patient rallied. Steady and firm pressure upon the fundus restored the womb to its normal conditions.

Another case of rapid delivery produced a slight rupture of the perineum. Fifteen months previous an extensive rupture had occurred, which had not been recognized by the attending physician. The patient had suffered during this time. I removed the epithelium and restored the perineum, using three large silk sutures. Dr. S. P. Zeigler assisted.

These cases are sufficient to lead the young practitioner to reflect upon the responsibility of the work in which he is about to engage. His first duty, after a careful study of the subject, is to prepare for any emergency. In a country practice, he should carry with him a strong pair of obstetrical forceps, and if distant from professional assistance one or more pairs of craniotomy instruments. These should be reserved until the life of the mother is in danger. It will be noticed that I used instruments in only six per cent. of cases, and I do not now think I should have used them more frequently. Some practitioners use the obstetrical forceps in one-fourth or one-third of their cases, but I cannot endorse this practice. If they would set forth the results of their work, as indicated in this paper, we would be able to judge better of the propriety of making such frequent use of them. The lancet and the hypodermic syringe should always be carried, though in these one hundred cases I had no use for the former. In plethoric cases of puerperal convulsions, the lancet should be used first. In the case referred to, I used the syringe and the sulphate of morphia, and with good results. The repetition of the dose within five or six hours, should always be in diminished quantities. Sulphuric ether and chloroform in the proportion of two or three parts of the former to one of the latter, by weight, are indispensable. A small piece of sponge saturated with a mixture and placed in the hands of the female is convenient and safe, and is generally sufficient. Should the anæsthetic produce jerking of the limbs, it would be well to discontinue it, as I have seen one case of this kind, not included in these cases, which resulted in tetanus

and death. Ergot has been regarded as a necessary part of the accoucheur's armamentarium, but in my hands it has an uncertain value. In cases in which I desired its reputed effect, it has not given satisfaction. It is probable, that in many cases action is slow.

Thus prepared for professional work, how should the practitioner behave at the bedside of the parturient female? To this question there is but one answer; he should be a gentleman. He should be polite, agreeable, and hopeful. He is called on business of the most important character, and for the time being, he is master of the house. Inappropriate conversation should not be indulged in: the reading of a newspaper may betray an indifference which might not be pardoned. On the other hand, there may be too much attention. Digital examinations are not to be made more frequently than are necessary to determine the progress of labor.

The exposure of the female, except in extreme cases, should be avoided. The efforts which have been made by some practitioners to overcome the supposed rigidity of the perineum by the introduction of one or both hands into the vagina, before the descent of the head into the pelvis, should be limited to the half-bred Indians of New Mexico, among whom this practice seems to have originated. Nor does it appear that the support of the perineum, recommended by more respectable authority, is of much account. We should rather assist nature in her efforts to expel the product of conception unless there is great danger of a rupture. Inunction and rubbing, when the head of the child presses firmly upon the floor of the pelvis, may be useful if the parts are rigid; and in extreme cases, a lateral incision of the vulva might be made. When the head has passed into or through the inferior strait there should be no delay. The accoucheur should pass his forefingers and thumb around the neck of the child and makes steady and firm traction. It may require the strength of a strong arm. A short cord around the neck may make delivery more difficult. Three things may call for immediate attention; syncope, contraction of the womb, and respiration of the child. The application of cold water with the hand is a good remedy for all. The placenta should be removed as soon as the condition of the mother will allow of it; in cases of hemorrhage it should be removed immediately. A firm contraction of the womb should be secured before leaving the patient. Her soiled clothing should be drawn away, and a binder applied if she has suffered much, and she desires it. The babe should be made comfortable in a soft woolen slip, long enough to protect the arms and the legs. Cow's milk, and no other food, except the mother's milk, should be given to it.

A few words in conclusion on two points which belong rather to the after treatment. Puerperal inflammation is a serious affliction which carries off a large percentage of mothers annually. I have seen this contagious in the hospitals of Europe, where it has prevailed to an alarming extent in the practice of others, and in three cases of abortion produced, as I believe, by the females themselves, and one of them died. My senior preceptor, highly respected and honored, gave me the particulars in one of his lessons of instruction, of three cases that he lost in less than a month by this disease. He changed his clothes, and washed himself from head to foot. He had a large practice at the time, but he had no more cases of puerperal peritonitis. I have since known a respectable practitioner to lose also three cases of this disease within twenty-four days. He too had a large obstetrical practice. Let us note also the fact, as given by Dr. Tanner, that forty cases of this fearful malady occurred in the practice of one obstetrician and his student, as an epidemic (so-called) in England. We need not look for the cause of this disease in the bacilli and micrococci of Pasteur and Lister and Koch (strain at a gnat and swallow a camel) when the causes are obvious and easily removed. The busy accoucheur, napping in his closed carriage between calls, or lolling upon his lounge in his office, is most likely to drop into careless, filthy habits. But let me say to the young practitioner, that you may be caught sleeping: you may have made an autopsy; you may have dressed some foul ulcer; you may have attended a case of erysipelas on the day previous to your call to the lying-in chamber. Would you obey such a call? There is a strong temptation. I have declined, and sent for another physician.

Agreeing that puerperal inflammation may spring up independent of any of the causes referred to and extend to the adjacent organs, what shall we use to prevent it? The old treatment of a hundred years ago—a dose of castor oil on the third day—is a miserable delusion. At no time have we greater need for our knowledge of pathology, physiology and therapeutics, and less need for routine practice, than in the treatment of the parturient female.

It has been my practice to administer from the first hour of labor, or as soon as called, cholagogues and anodynes in small quantities, often in very small quantities. These may be given in an agreeable form, in powders, in granules, in parvules, or in pellets. There should be no time fixed for the movement of the bowels. To give a compound cathartic pill or two immediately after delivery might be the best thing to do. It would certainly help to arrest any tendency to inflammation of the uterus or the mammary glands by relieving the organs of secretion, and the distended blood-vessels. The natural channels which carry away the excrementitious products of the body should certainly not be closed when several important organs are undergoing such rapid change.

Abscess of the mammary glands would very rarely occur if evacuants were used instead of tonics and stimulants. In the case referred to the mother of the parturient female thought it would not be necessary to make a third visit, and undertook the treatment with castor oil. The result was, that several extra visits were made by myself and a neighboring practitioner.

This paper is respectfully addressed to the younger members of the profession with the hope that some, at least, will be encouraged to collect statistics and to present them, as here indicated, for publication. These statistics would be specially valuable if collected from a private practice.

Dr. Hugh Hamilton, of Harrisburg, the

read a very valuable paper on "Artificial Alimentation," which will appear in full in our next issue.

Dr. R. H. Chase, of Norristown, followed with a paper entitled

"INSANE ASYLUMS IN SOME OF THEIR RELATIONS TO THE COMMUNITY."

The principal portion of this paper is occupied in the refutation of the popular delusion that persons of sound mind are frequently sent to institutions for the insane, through sinister motives, and there indefinitely detained. The writer regrets that this erroneous belief has become disseminated to an incredible extent, even in the medical profession.

A number of distinguished alienists are cited whose experience confirms his statements. A typical example in point, from his own practice, is given in detail—considerable importance having become attached to this case from its recent publication in the *Phila. Med. Times.*

He also briefly alludes to the jury system of commitment, which is advocated as a remedy for this alleged wrong; the progress made in mental science is pointed out, and he speaks confidently of the advance that will be made in psychiatry in the near future.

He refers to the revision of the lunacy laws of the State, and closes with a short plea setting forth the relations which insane hospitals bear to the causes of mental disease, remarking upon the melancholy fact that the work of hospitals in restoring the insane tends to spread the disease by the mysterious laws of heredity. Yet this need give no cause for alarm, he says, for at the proper limit nature will station her forces of controversion.

"CLUB-FOOT—A FEW SIMPLE REASONS FOR ITS EARLY RELIEF,"

was the title of a paper read by De Forest Willard, M. D., Lecturer on Orthopædic Surgery of University of Pennsylvania, Surgeon to Presbyterian Hospital.

Dr. Willard discussed the subject of congenital talipes from the standpoint only of the necessity for early treatment, and the great harm which would result from neglect. Moderate degrees of deformity became severe ones while the physician was wasting precious time in waiting for the child "to be old enough for operation." Corrective measures should be adopted from the day of birth, and the foot should never be allowed to remain in the deformed position. Manipulation and hand pressure were capable of curing the majority of moderate cases of club-foot, but as the hand could not be constantly employed, all possible adjuvants should be brought to bear. The foot should be forced into as nearly the normal position as the child's endurance will permit, a dozen or more times each day by the mother, firm traction being exercised upon all contracted tissues, whether muscular, fascial, or ligamentous. This force combined with massage and electricity, would develop the awakened muscles and elongate the contracted ones, while the opposite results would occur if the weight of the clothing were suffered to lie upon the unsupported foot: especially if the child be allowed to rest upon its feet would most serious deformity of the bones occur.

To assist the manipulations described, it was necessary that the foot be prevented from assuming its abnormal position. Various methods of securing this end were demonstrated, all simple, inexpensive, and easily attainable. Sole-leather, cut roughly to the shape of the foot and leg, fitted while wet, and then dried in position, would answer well, and was capable of easy removal for frictions, shampooing, and stretching. Felt, binder's board, or tin, would answer the same purpose. Plaster of Paris also was of great use, especially when through ignorance or inattention the proper manipulations would be neglected. At first the limb should be fixed in a position as nearly straight as it is believed the parts will sustain the pressure. When dry, the plaster case could be sawed open, and then removed three or four times a day for stretching. New casts could be applied as rapidly as rectification of the foot advances. Silicate of soda, or starch, or any stiffening material, will answer, but are not equal to gypsum, as the foot must be held in proper position during the "setting" of the material, and nothing equals plaster in rapidity, especially if table-salt is added to the water.

To secure elastic traction, which next to the hand-pressure is most efficacious, it will be found best in infants to surround the leg just below the knee with a band two or three inches in width of "printer's blanket," "two-ply," as it is known in the rubber trade—simply gum with cloth facing; this cut to the proper length and with eyelets inserted, is laced in position, and a similar band is applied to the sole of the foot. Between the two is stretched a gum band, the size being graduated according to the strength of the child—sizes: 0¼, 00½, 000¾, 0000¾, 5-inch, and 7-inch. Such as are used in holding large bundles of papers will be sufficient. The advantage of this substance consists in the fact that it does not absorb urine or fæces, that it can be easily washed, and that at the temperature of the body it is sufficiently adhesive to remain in position without slipping. Should the dressing show an inclination to turn upon the foot or leg, a strip of rubber "soling," "thin" or "medium" grade, can be used in its place, the roughness of which would effectually prevent any such tendency. "Gutta-percha sheet," one-eighth inch in thickness, also answers nicely, if dipped into hot water, and moulded to the parts. Any of these articles can be obtained by writing to either the Goodyear or National Rubber Co.'s stores in any city, and the cost would be trifling.

The great advantage of this form of dressing is found in the fact that it is capable of being frequently removed for stretching and friction, that it is light, and can be worn inside a shoe, by simply cutting a slit for the strip. Sole leather would answer for the encircling bands, but it is more absorbent, and hence not as cleanly for infants.

Another very important element in the use of this form of apparatus consists in the fact that without renewing it, the mother can, whenever holding the child in her lap, constantly exert her curative power by forcing the foot into its proper position. The pressure of the encircling leg band retards circulation less than would be the case in immovable apparatus.

Barwell's dressing, by means of which points for the attachment of a rubber band are secured, is a good principle, but can be better carried out by the plan just mentioned. Since the regular Barwell cannot be daily removed, and as it is very liable to be soiled in young infants, it is only applicable to older children. At the point of origin of a muscle, a strip of tin containing a loop of wire is fixed in position by adhesive strips and bandages; at the point of insertion another eyelet is made fast in a similar way. The rubber strap extending between these points should be as the circumstances require, an infant needing no more than a gum band used for papers, No. 000$\frac{3}{4}$ or 5-inch; others will call for elastic webbing or tubing into the ends of which hooks are inserted.

Neill's treatment could be also used, but is objectionable for more than temporary use, since ready removal for hand traction was a most important element in any dressing.

Elastic tension has the advantage of acting constantly, whether the child be asleep or awake, and in the course of a few months, by the proper combination of manipulation with the means already alluded to, it will be found that such great advance has been made in the treatment that tenotomy, at first perhaps considered inevitable, will now be dispensed with. Even in the severe cases, where section of the tendon is necessary, this preliminary treatment will prove to have been of great benefit, and the operation will be far less likely to be followed by relapse.

Where patients can afford a shoe, the same principle can be carried out by the simple plan adopted by the author, of riveting an arm to the ordinary stirrup used in steel uprights for club-foot shoes, at the end of which arm is an eye through which plays a catgut cord attached to an elastic webbing, running up to be fastened to a button at the top of the upright. The attachment to the foot is made in the shoe opposite the heads of the metatarsals. An inexpensive joint is formed opposite the metatarsal articulation, which permits motion in every direction as readily as a ball-and-socket joint, by simply paring down the sole for a half inch in front of the stirrup, to the thickness of a sheet of paper. If the child is not walking, and there is consequently no trouble from the admission of dirt, the toe portion of the shoe can be made separately from the heel, being joined to it in the sole only, and there by means of a strip of soft "upper leather." Such a shoe costs but little, and fulfills most simply and perfectly the indications required, *i. e.*, the rectification of the deformity at the calcaneo-cuboid and astragalo-scaphoid articulations, and the stretching of the contracted calf-muscles and plantar fascia. Should the case be too greatly deformed to yield to these measures, tenotomy can be subsequently performed, or other operative measures instituted, but the present discussion is purposely limited to early simple means of correction.

"THE WEARING OUT OF VACCINE PROTECTION AND THE EFFICACY OF RE-VACCINATION."

Was the title of a paper read by W. M. Welch, M. D., Physician to the Municipal (small-pox) Hospital, Philadelphia.

Jenner not only believed in the identity of small-pox and cow-pox, but even entertained the fanciful notion that cow-pox in the animal, was the original or parent form of small-pox in man. According to this view, vaccinia in man was believed to be small-pox in its primitive and mildest form. Hence the protection which resulted from vaccination was regarded as permanent; or, at least, as permanent as that afforded by once undergoing small-pox.

This pleasing but illusory doctrine was long entertained; but time and greater experience have developed an accumulation of facts which lead to a very different conclusion.

It is my purpose to show, *first*, that the susceptibility to small-pox, however thoroughly destroyed by vaccination, may subsequently return; and, *secondly*, that re-vaccination can be depended upon to destroy again this return of susceptibility to the disease.

Among the most valuable statistical data proving the first proposition—valuable, because there is no room to doubt the reality and efficiency of previous vaccination—are those collected in the British army from 1834 to 1838 inclusive. The regulations of the army required every invividual connected therewith to be thoroughly vaccinated, excepting only those who had had small-pox; but re-vaccination was not then enjoined. The average strength of the army during this period was (including men, women and children) about 105,000; of this number, 1,025 were attacked by small-pox, and 122 died, giving a death-rate of 11.9 per cent.

The statistics of small-pox hospitals show that a large proportion of the cases of the disease occur among persons vaccinated in early life. During the great epidemic of 1871–2, 2,377 cases were admitted into the Municipal Hospital of Philadelphia, and of that number, 68 per cent. occurred in persons vaccinated in early life. During the recent epidemic—1880–81–82—there were 1,659 admissions, and 54 per cent. of these were post-vaccinal cases. The proportion of such cases is seen to be 14 per cent. less in the late epidemic; the explanation of which is, I think, that re-vaccination was more extensively employed then in Philadelphia, than ever before.

I shall endeavor to show still farther that the deterioration of vaccine protection is progressive—increasing up to a certain period of life with the distance of time from the primary vaccination. To prove this, I submit the following table, containing a classification of 2907 cases of post-vaccinal small-pox, which have come under my own observation: showing the

relative numbers and ages of persons attacked by the disease after vaccination, also the ratio of deaths to the numbers attacked at the various ages:

		Cases.	*Deaths.*	*Percentage of Deaths.*
Under 5 yrs of age.	good cicatrix,	1	0	. . . . .
	fair	4	1*	. . . . .
	poor.	5	1	. . . . .
	Total . . .	10	2	. . . . .
5 to 10 years . . .	good cicatrix,	11	0	. . . . .
	fair	9	0	. . . . .
	poor.	26	8	30.73
	Total . . .	46	8	17.39
10 to 15 years . . .	good cicatrix,	45	2	4.44
	fair	18	2	11.11
	poor	36	4	11.11
	Total . . .	99	8	8.02
From 15 to 20 years of age . . .		388	47	12.11
" 20 to 25 " " . . .		745	96	12.88
" 25 to 30 " " . . .		580	92	15.86
" 30 to 35 " " . . .		356	64	17.97
" 35 to 40 " " . . .		249	51	20.48
" 40 to 45 " " . . .		154	38	24.67
" 45 to 50 " " . . .		105	22	20.95
" 50 years and over		175	63	36.
Grand Total . . .		2907	491	16.89

Doubtless, very many cases classified in the table under the headings of "poor cicatrix" were never successfully vaccinated.

The table, while it certainly shows a very gradual increase in the number of cases of post-vaccinal small-pox during the earlier periods of life, proves that the maximum numbers occur at the periods immediately following puberty; thus indicating that at this eventful epoch some change is brought about in the animal economy that lessons or entirely destroy the protective influence previously exerted by vaccination. This may be the case even where the vaccination had been most thorough and complete. I have seen small-pox occur in persons presenting more than twenty typical vaccine marks; and I have known deaths to occur when as many as twelve such marks were present. The sooner, therefore, the profession and the public fully recognize the necessity of re-vaccination in all persons at the age of puberty, if not earlier, regardless of the quality or number of their vaccine scars, the sooner shall we succeed in the noble work of preventing small-pox, or of cutting short epidemics of the disease.

If then vaccination of the highest degree of excellence fails to confer permanent protection against small-pox, how much less must be the protection which comes from vaccination of an inferior character—such, for instance, as results from the use of partially deteriorated virus. The deterioration or diminished efficacy of vaccine virus by long humanization is a question which has been variously regarded by different observers: being accepted by some as an axiom, and rejected by others as a mere fancy. For myself, I have no hesitation in saying that it is my belief that vaccine virus not only loses much of its vigor through a long series of human transmissions, but that it also suffers in the durability of its prophylactic power.

Typical vaccinia, or that type of the disease which should result from the use of animal lymph or lymph of recent humanization, requires for its fullest development and completion not less than twenty-one days, and sometimes a much longer time; while long humanized virus not unfrequently induces a form of the disease which runs its course in about two weeks. The former is followed by a permanent, well-defined and characteristic scar; the latter, by a superficial and ill-defined scar.

It is true that vaccinia of short duration will destroy the susceptibility to small-pox. I have had ample proof of this. Furthermore, I would say that for vaccination after exposure to the variola contagion my preference is for humanized virus somewhat remotely removed from the heifer, on account of the more speedy development of the vesicle and the earlier appearance of the areola. But the point I wish to emphasize is, that the protection which results from vaccinia of short duration is not so durable as that which results from vaccinia of a perfectly typical character. Or, in other words, the prophylactic power exerted by long humanized virus, is less durable than that exerted by bovine lymph, or lymph of recent humanization. To prove this, after what has been said, it is, I think, only necessary to show that small-pox is more fatal among persons showing poor, or even fair vaccine scars, than among those showing good scars. My statistics show the death rate to be 9 per cent. among patients having good cicatrices; 16 per cent. among those having fair, and 27 per cent. among those having poor cicatrices.

Having shown the necessity for re-vaccination, it yet remains to say something about its efficacy. Let me say first, however, that undoubtedly there is a great deal of confusion in the minds of practitioners as to what constitutes successful re-vaccination. Many believe that unless the vesicle pursues the course of typical vaccinia, the disease is spurious and without value. But, certainly, there is no more reason why the disease induced by re-vaccination should be true and typical. As varioloid differs in various degrees of severity from true small-pox, so does vaccinoid differ from true vaccinia.

Some of the most conclusive proof of the efficacy of re-vaccination is furnished as the result of experience in various armies. During the Franco-Prussian war, the Prussian army, in which re-vaccination was carefully and systematically performed, lost by death from small-pox, under circumstances of great exposure to the disease, only 263 men; while the French army, in which re-vaccination was not enjoined, lost 23,468 men; and the latter army was at no time much more than one-half the size of the former.

During an experience of more than twelve years in hospital work, I am enabled to say that only very few patients have been admitted to the hospital with varioloid, who presented evidence of having been successfully re-vacci-

*This case, not at all severe, occurred in a very delicate child—a foundling—one year old.

nated, and these few have had the disease in so mild a form that death has not occurred in a single instance. No person entering the hospital in any official capacity—as a resident physician, steward, matron, nurse, laundress, or other employé—who had taken the precaution to be re-vaccinated before entering on duty has suffered from smallpox in any form whatsoever. But, on the other hand, I have seen a few employés in whom re-vaccination was for some cause omitted, become infected by the disease.

With such facts as these before us, the conclusion seems inevitable, that if vaccination were efficiently performed in infancy, and re-vaccination at puberty, if not earlier, we should begin to realize the truth of Jenner's assertion, viz., "*that vaccination is capable of extirpating small-pox from the earth.*" But whether vaccination will ever be so universally and wisely employed as to confer on mankind its greatest possible benefits is doubtful.

After the transaction of routine business, the Society adjourned.

In the evening, at 7.30, the President delivered his annual address (see page 505), after which the Society was entertained at a banquet by the Montgomery County Medical Society.

Thursday Morning.

After prayer by the Rev. H. M. Kieffer, Dr. A. Craig, of Columbia, delivered the address in "Surgery," which will appear in our next issue.

Dr. E. O. Bardwell, of Emporium, followed with a paper entitled

"SOME REMARKS ON SCARLET FEVER."

I have been led to prepare a short paper on scarlatina, not so much by the fact that I have made a careful study and analysis of 176 cases, as by the fact that this study has confirmed me in the adoption of some views concerning this disease somewhat different from those held by many of the profession.

I shall not attempt to give a complete history of the disease, but merely a few points in the history of these cases, and the deductions drawn therefrom.

During the winter and spring of 1878-9, 150 cases of scarlatina occurring in and about Emporium were treated by Drs. DeLong, Heilman and myself, it being convenient and interesting for us to do so. We met nearly every day and compared notes and made urinary examinations. Dr. DeLong, the microscopist of the party, is well known throughout Cameron and the adjoining counties as a physician of skill and ability in the use of the microscope.

Of the 150 cases the urine from 80 was carefully examined, and in every one without a single exception was found either albumen, blood globules or tube casts; in 21 cases albumen was found without other abnormalities, in the remaining 59 cases epithelial cells from the tubuli uriniferi. Blood globules or tube casts were found, either with or without albumen. In 9 cases only, albumen was found during the first 4 days of the febrile movement, but in no instance were tube casts or other microscopic abnormalities discovered before desquamation had commenced.

The disease as it prevailed at this time and place was neither mild or unusually severe, the temperature averaging at its maximum 105 degrees, reaching in several cases which recovered, 107 degrees, and the pulse 140, reaching in at least one case, which recovered, 200.

The throat affection was a source of much anxiety in some of the cases, and in all required some attention. Many cases were complicated by enlargement of the submaxillary and parotid glands, five of them to such an extent as to make the use of the bistoury necessary.

April 23, 1879, I was called in haste to see a case twelve miles distant, and the train being on time, I reached the house within an hour, when I was met at the door by the information that I was too late; the patient, a girl of twelve years of age, was insensible, and strongly convulsed every few minutes; her eyes were in a state of nystagmus, the pupils insensible to light and the heart pulsating at the rate of 200 beats per minute: she had voided no urine for twelve hours previously, and very little for two days; she had had an attack of scarlet fever three weeks before, but it had not been thought necessary to call a physician. The patient had been in this condition since 5.30 p. m.; it was now 8 p. m. I immediately ordered water to be made hot, and forced down her throat a large dose of compound jalap powder in solution, together with ten drops tincture digitalis. The digitalis with five grains of bitartrate of potassa was continued every half hour until 11 o'clock. The water was brought in as hot as I could bear my hand in it, and the patient was placed therein; she had her last convulsion while in the bath the first time. She was taken out shortly, wrapped in flannel blankets and a mustard plaster applied to the lumbar region. This process was repeated five times from 8½ until 11 p. m., at which time she recognized her father. At 12 o'clock a watery evacuation from the bowels took place, and her recovery from this time on was gradual but complete.

A similar case occurred about the same time, but it had been treated by a quack with irritant diuretics, and although regular medical attendance was at last called and much the same treatment pursued, the patient died comatose.

Soon after I was called to see Mrs. C. B., aged 33 years. In four days her temperature had reached its highest point, 106½°. It then gradually declined until the seventh day, when it commenced to rise again, and albumen began to appear in the urine. Her improvement was very slow, and she suffered much from insomnia. During the third week, against my better judgment, I administered morphia. She rested better the night following, but the next day she had excessive cephalalgia and uræmic vomiting. No urine being voided that day, I used the catheter, getting about two ounces, loaded with albumen, and also containing tube casts and blood globules. The next day small abscesses made their appearance in different

parts of the body. She was treated with hydragogues and hot fomentations as seemed to be required, and braced up with tonics, but improved very slowly. The ninth week, with a director, I evacuated a large deep-seated abscess in the left axilla. From this time on her recovery was continuous, though very slow, it being six months before she had entirely recovered her strength, which she finally did, however, and is now perfectly well in every respect.

I have noticed that in those cases where the temperature being high and the pulse rapid, the eruption has remained rather scanty; that the symptoms referable to kidney and mucous membrane lining the bronchial tubes, stomach, and intestines has been much increased in intensity, not as I believe by metastasis, but by a natural selection of those situations for the chief elimination of the morbific principle in that particular instance.

The pain in the chest, stomach, and bowels frequently met with would seem to indicate a certain amount of efflorescence in those cases in which it concurs, while the microscope furnishes irrefragable proof of the existence of inflammation and subsequent desquamation of the mucous membrane lining the tubules of the kidney.

The treatment of the whole number of cases was very much the same, varying only in minor details as the exigencies of the case seem to demand, but all based on the theory which the subsequent history of 176 cases supports to a marked degree.

By the study of these cases my opinion has been verified that the nephritic lesion is not a sequel, but a concomitant, and that it obtains in every case of scarlet fever to a greater or less extent. If this is true, then the kidney lesion is the most important feature to bear in mind, and is the primary source of danger, leaving out those exceptional cases where the throat affection assumes a diphtheritic character, or when the pyrexia is so excessive as to paralyze the nervous system and cause death by asthenia. Understanding the action of the kidney, and believing it contains a dangerous element, our treatment is in all cases, regardless of non-severity or malignancy, addressed to some extent to this factor.

In all febrile disorders the cardiac organ is weakened, the pulsations are weaker than normal and usually faster as well. As a direct consequence the muscular walls of the renal arterioles are lax, the high arterial tension which favors osmosis and the consequent separation of the urinary elements from the blood is wanting, and the amount of urine secreted is abnormally small. During defervescence in other pyrexia the urinary secretion becomes augmented as the condition of the circulation improves, and no bad results follow. In scarlet fever, however, the case is different: if proper remedies have not been used when the urinary secretion begins to be increased, the uriniferous tubules may be so blocked up with desquamating epithelium as to prevent the passage of any urine into the ureters, and fatal uræmia rapidly result.

Theoretically, then, we desire from the first a remedy which shall increase arterial tension in the Malpighian bodies, mildly stimulate the secreting element of the kidney, and at the same time have a demulcent effect in passing over the irritated epithelium of the tubules. We have no one remedy which meets these indications, but in digitalis and potassium acetate we have a combination which will do the work required, and more—for the digitalis slows the heart's action, and perhaps has some apyretic properties as well. Belladonna increases arterial tension, but does not slow the heart, and is not so much to be depended on. The potassium is slightly stimulating, demulcent, and increases the secretion of urea.

From a scientific standpoint, this treatment is a natural corollary from the study of the pathology of this lesion, and it is fully borne out in practice. For the throat complication, the muriated tincture of iron is an excellent remedy, and its action on the kidney is favorable, as it increases the elimination of urea. For the cephalalgia, which is frequently excessive, potassium bromide should be used, as it is not only efficacious, but has a slightly diuretic action. Morphia or any of the preparations of opium should be carefully avoided, as after the first transient effect they decrease the urinary secretion and the elimination from the blood of all its constituents. The increase of temperature will usually need attention for several days, as the insomnia, jactitation, and other nervous phenomena which may exist, are caused by the excessive pyrexia. Quinia has to be given in large doses to produce any lowering of temperature, and it is then only temporary unless the natural time for defervescence has arrived. Such doses irritate the stomach and decrease the elimination of urea. Quinia in scarlet fever is worse than useless.

In tepid water we possess an apyretic, which is harmless and of decided benefit: it may be employed either by sponging the surface or by use of the bath or pack, according to the urgency of the case. During its use, the temperature falls, the nervous symptoms disappear or are mitigated, and the patient is soothed and restful, often falling into a quiet sleep immediately thereafter. When the temperature rises again, water may be used again, and the temperature be thus kept down to a point compatible with ultimate recovery.

In treating any complications which may arise, if I am correct in my views, it is important to administer only such remedies as will not have a deleterious effect on the kidney.

During the four years following this endemic, I have attended twenty-six cases of scarlet fever, with mortality *nil*. As far as the clinical history is concerned, they may as well be classed with the others in every way, as they were of about the same severity, followed the same course, and received the same treatment, and there is no reason for wearying you with their history in detail. As before stated, the 176 cases all received essentially the same treatment—that briefly sketched above. Of the whole number, five died: the one treated primarily by a quack, two which succumbed

within twenty-four hours, overwhelmed by the intensity of the attack at the onset, and two which died from the effects of diphtheritic complication.

A quack who pretends to be a homeopathist, had during this time, as nearly as I can estimate, about thirty cases, six proving fatal, not including the one which concluded to die on a physician's hands. Now if he used Hahnemann doses, it would look as though the let-alone treatment was not the proper thing in this disease; while if he used appreciable doses, as I am inclined to believe he did, it would appear that improper medication must have been injurious and fatal.

While I fully appreciate the value of rest, diet, and cold water, still my experience with scarlet fever, unlike that with many other diseases, leads me to believe that sometimes medication is markedly beneficial.

I am fully aware that the majority of these cases would have recovered without any medical attendance; but on the other hand I am equally certain that the medical agents employed saved some lives.

A mortality of 5 in 176 cases is rather low, and I believe that treated from a false pathological standpoint no such results can be obtained; and if the pathology is correct, then the above is the rational plan of treatment, and the science aad practice of medicine have met in the treatment of scarlatina as they have in few other diseases.

Dr. E. A. Wood, of Pittsburgh, read a paper entitled

"A DEFORMITY WHICH SOMETIMES FOLLOWS DISLOCATION OF THE FOOT OUTWARDS AT THE ANKLE-JOINT."

After a severe injury, as a blow or a fall, by which the foot is dislocated outward, and by which the distal end of the tibia is contused, split, or impacted, but in which the luxation is the only condition manifest, it sometimes happens that the ankle is deformed by enlargement of the distal end of the tibia, by increased malleolar space, by turning of the foot outward as in *talipes valgus*, and by the foot presenting outside the axial line of the leg.

Injury of the end of the tibia is likely to be followed by inflammation and enlargement, and the degree of each will be proportionate to the severity of the force which caused the same. Enlargement must widen the malleolar space—space which the astragalus cannot fill. In this case, deformity is obvious. But there are other elements which add to the deformity. In the case before us, the internal lateral ligaments are completely severed, while the external lateral are not. When the internal malleolar space is widened, the intact ligaments which bind the foot to the fractured lower end of the fibula will keep the foot in contact with the latter bone, while the internal malleolus will project inwards. This distance between the internal surface of the astragalus and the internal malleolus, will retard or make impossible the repair of the internal lateral ligaments.

It will be seen that the deformity may not be apparent when the dressings are removed, say at the end of two months, but when the patient attempts to walk on the injured member, he finds it weak and tender. When he persists in bearing his weight thereon, he will soon begin to notice that the foot is not right, and the surgeon will then see that that member is turned outward, is outside the leg axis, and that the internal malleolus forms a very prominent tumor, almost touching the floor when weight is borne on the unsound foot.

If the surgeon is observant he will now see why the deformity exists; the intermalleolar space is abnormally widened, making repair of the internal lateral ligaments impossible or insufficient.

The only way to arrest the trouble and make the deformity the minimum, is to keep the foot in suitable dressings for a long time, and that time may be a year or years. At the shortest and the best it will be a long time.

Dr. William Pepper read a paper entitled a

"CONTRIBUTION TO THE CLINICAL STUDY OF TYPHLITIS AND PERITYPHLITIS."

After alluding briefly to the usual favorable course of ordinary cases of this affection, he dwelt upon the extreme importance of pursuing treatment embracing absolute rest and carefully restricted diet, until complete cure was effected, so as to avoid the very strong tendency to subsequent relapse. Allusion was made to the ulcerative and perforating forms, and he dwelt upon the importance of the early recognition of the tendency to abscess. Exploratory puncture should be made, followed by operation for evacuation if abscesses be detected. Cases were quoted illustrating some of the difficulties of diagnosis, and the advantage of operation. Especial stress was laid upon the strong tendency of cases of typhlitis to recur, and finally, unless treated with great care, to pass into a chronic form. Several illustrative cases were given, bearing on this point, which further showed that even where very frequent relapses had occurred, a complete and permanent cure might be obtainable.

Dr. S. W. Gross, of Philadelphia, read a paper on

"THE THOROUGH REMOVAL OF CARCINOMA OF THE BREAST,"

in which he advocated the amputation of the entire breast with its superjacent skin and fat, no matter how small the growth may be or how sound the skin may appear, along with the removal of the fascia of the pectoral muscle, and opening the axilla, with a view to cleaning it out if the glands are found to be invaded by the disease. This mode of operating is indicated because the remains of the breast, the fat, the skin, pectoral fascia, and axillary glands, are the seats of recurrence, or rather of the continuous growth of portions of diseased structures which are left behind in the operations as usually performed. For these reasons, the operation which he suggests is alone adequate to effect riddance of the tissues in which reproduction takes place.

Dr. Gross has operated in the manner indicated

in twenty cases, of which only one died. Excluding one case, in which all diseased structures could not be removed, and three in which the history ceased with the recovery of the patient, he gave a synopsis of the remaining sixteen. Of these, nine, or 56.25 per cent., were failures, one having died, one having been incomplete, and seven having recurred within a year; and seven,, or 43.75 per cent., were successes, the patients having remained free from recurrence for periods varying from eleven to fifty-six months, or twenty-seven months and a half on an average. Three of these living cases were presented to the Society, of which one was free from reproduction for sixteen months and a half after operation, one for three years and eight months, and one for four years and eight months. In the first and third cases the axilla was cleaned out, while in the second it was explored with the finger, but as it was free from disease, its contents were not disturbed. In all of these patients the cicatrices were soft, pliable, and freely movable on the pectoral muscle.

"THE TREATMENT OF PURULENT PLEURAL EFFUSIONS,"

was the title of a paper read by James C. Wilson, M. D., of Philadelphia, Professor of Diseases of the Chest, in the Philadelphia Polyclinic; lecturer on physical diagnosis at the Jefferson Medical College, etc., etc.

The changes that have taken place in the management of pleural effusions in the last two decades constitute an important advance in practical medicine. In its present form the treatment of these diseases, though less striking, perhaps, than the treatment of some other affections, is capable of results, in diminishing human suffering and prolonging life, not inferior to those of the most brilliant triumphs of modern surgery in other fields.

Thanks to the wide diffusion of the art of physical diagnosis, the recognition of considerable collections of fluid in the pleural cavity is no longer beset with difficulties in any case. Thanks to the courage of Trousseau and Bowditch, to the clinical studies of Traube, Fraentzel, and others, and to the ingenuity of Dieulefoy and Potain, the indications for the removal of effusions, when necessary, are now definite, and procedures at once effectual and safe are at our command. Great, however, as has been the improvement in the treatment of these disorders, it is evident, upon the most cursory review of the literature of the subject, that the progress of knowledge here, as elsewhere, has often been retarded by the weight of authority and the mutations of fashion in medicine. Notwithstanding this fact, the tendency has been in the direction of the recognition of the essential pathological condition and simplification of appliances and their use. It is with a view to furthering this tendency that I venture to lay before this Society the details of the plan of treatment that has proved in my hands very satisfactory, and to indicate at the same time the pathological considerations upon which the plan is based.

The physical signs of pleural effusions may, in general terms, be referred to two series; First, those relating to the absence of the lung in certain regions of the chest, such as absent or restricted respiratory movement, absent or greatly enfeebled respiratory murmur, enfeebled vocal resonance, and fremitus. Second, those relating to the displacement of the organs upon which the pressure of the accumulating fluid exerts itself. These are in the order in which they occur: vesiculo-tympanitic or otherwise modified percussion resonance on the affected side above the line of the effusion and due to compression of the lung; signs indicative of downward displacement of the liver or spleen, and immobility of the liver upon first respiratory efforts; signs indicative of displacement of the heart toward the sound side; fixed enlargement of the affected side, especially in its antero-posterior diameter; and finally widening and fulness of the intercostal spaces, most marked at the base of the chest.

Besides the signs comprised in these two series there are others, as for example, œgophony, which are neither constant nor necessary to the diagnosis.

Aside from hæmorrhagic effusions and those passive effusions affecting both sides known as hydro-thorax, with neither of which we are at present concerned, inflammatory fluid exudations into the pleura are of two kinds: on the one hand a fibrino-serous fluid, poor in cellular elements, and on the other, a thoroughly elaborated or even ichorous and fetid pus.

But the pathological distinction between these fluids is less marked than their gross characteristics. A few weeks ago I withdrew by aspiration at a single sitting from the right chest of a man who had been for a long time confined to bed, a large quantity of fluid. Of this, the first that flowed was of a straw color, and only slightly turbid; gradually, the as cavity contracted, and the tip of the canula was depressed into the more dependent part of the thorax, the fluid became more and more opaque until finally it presented the appearance of thin creamy pus. In fact, with few exceptions, pleural effusions are not primarily purulent, but serous. They become purulent by degrees, resorption not taking place, and the inflammatory process continuing. From the clinical point of view, however, the distinction between fibro-serous and purulent exudation is of the highest importance. Serous exudations into the pleura are capable of resorption; pus is not.*

The methods of physical diagnosis enable us to determine the presence of fluid, not its character. When, however, to the signs indicating the presence of fluid are added certain symptoms, such as great pallor and rapid emaciation, irritated fever with sweating and diarrhœa, the presumption that the fluid is pus becomes very strong. Nevertheless, large purulent exudations occasionally occur without any of these symptoms. The nature of the fluid may always be determined by an exploratory

*The limits of this paper do not permit me to note the exceptions to this general statement.

puncture. For this purpose a hypodermic needle is commonly employed. My own preference is for the use of the aspirator, the operation causing no more pain, and having the advantage of permitting the withdrawal of a portion of the fluid at once. It frequently occurs that the removal of a few ounces of fluid is followed by the resorption of large serous exudations that have resisted medicinal treatment.

If the exudation be found to be purulent, the treatment must be determined by the age of the patient. In young children repeated aspiration of the pus as it re-accumulates, frequently results in permanent cure. I have seen one case in which a single aspiration of a distinctly purulent pleural exudation effected a cure in a child four years old. In adults, however, the case is altogether different. After aspiration, the pus rapidly re-accumulates; repeated aspirations exhaust the patient, without tending to the obliteration of the cavity. It is vain to hope to effect a cure in an adult by means of aspiration. The diagnosis of empyema being determined, it becomes necessary to establish a thoracic fistula. To the question when? I reply, with as little delay as possible. If the exudation be large, a host of dangers imperil the life of the patient. He may perish of exhaustion from the constitutional disturbance, or of septicæmia. Heart-clot may form as a result of mechanical interference with the blood-stream in the great vessels by reason of the displacement of the heart. If the lung be long compressed, it will expand slowly and imperfectly, sometimes not at all. Necrosis of the pleura may occur and the pus find its way into a bronchus or through the diaphragm. Suffocation is in the former event a possibility, in the latter fatal peritonitis a certainty. It may find vent by an indirect or tortuous sinus through the chest wall, an accident not likely to save the patient the ordeal of an operation except at the cost of years of invalidism. Subpleural abscesses may form, and finally we must not overlook the risk of gangrene of the lung, of amyloid disease, of tuberculosis.

To the question, How is a thoracic fistula to be made? the answer is not so ready. We must consider the pathological condition and the real purpose of the operation. We must give heed to the dangers that are said to attend it, and distinguish those that are to be dreaded as real from those that are traditional, and, therefore, from those that are to be disregarded. The disease for which this simple procedure is curative, is one of the most serious of the inflammatory affections, and lends to the operation much of its own importance. I am not among those who make light of tapping the chest.

Finally, we must divest the procedure of unneeded complications, and seek to render it as simple as is consistent with the attainment of the object in view and the safety of the patient.

First, then, we have to do with an extensive abscess, occupying a serous space, the walls of which are pyo-genic. This pus-containing cavity exists at the expense of the surrounding organs, which are displaced to give it room, and which tend to resume their normal position. This tendency, viewed in connection with the disposition on the part of the pus-forming pleural surfaces to adhesive inflammation and the formation of granulations when allowed to come together, and to again form pus when again separated, indicates the real purpose of the operation. This purpose is the obliteration of the cavity by the elimination not only of the fluid already formed, but also by continuous drainage of that formed after the operation. To permit the opening to remain closed, even for a few hours, is to retard the progress of the case by dilating the cavity, and thus again converting, at some point and for the time being, a reparative inflammatory process into a destructive one.

It is proper to state at this point my conviction that it is not in all cases possible to determine whether the empyema be primary or secondary, and that this question does not in reality affect the propriety of the operation if the collection of fluid be at all extensive.

The dangers of the operation may be divided into immediate and remote. The immediate dangers differ greatly according as we employ the bistoury or the trocar. As I believe the trocar to be the best instrument in all cases, I restrict myself to the consideration of the dangers attending this instrument alone. And as I likewise believe that a single opening properly made is better than the two openings of *through drainage*, I dismiss the consideration of *through drainage* with the remark that all the immediate dangers of making a single opening through the chest wall are greatly increased by making two.

The real dangers directly attendant upon the operation may be briefly enumerated.

First, the adherent lung may be wounded if the puncture be made at a point too high, or the diaphragm if at a point too low.

This danger is to be obviated by determining the areas of dullness at all points of the affected side, and the level of the base of the sound lung as a guiding line. The point of election is in the sixth or seventh interspace, in the line of the posterior axillary fold. To the objection that this is not the most dependent region of the cavity, I reply that as the pus escapes the diaphragm rises, and that a line some distance above the floor of the cavity before tapping speedily corresponds to the level of its floor after the operation. At the point indicated, the muscular wall of the chest is not so thick as farther back, nor are the integuments so sensitive as farther forward. Furthermore, in the recumbent posture this point is favorable to drainage by gravity.

Second, collapse may result from the too sudden withdrawal of a large collection of fluid.

This danger is to be averted by two expedients. Of these, the more important is the preliminary withdrawal of a portion of the pus by aspiration, a procedure which I practice in all cases for the following reasons, namely:

(*a*) To determine the resistence of the intercostal structures at the position of choice for the radical operation.

(*b*) To ascertain the precise character of the fluid.

(*c*) To reassure the patient by exhibiting to him the fluid thus withdrawn and to inspire his confidence by the temporary relief aspiration affords. And finally,

(*d*) For the purpose indicated, that is, to obviate the risk of collapse by the previous withdrawal of a part of the exudation. When the circumstances permit it, the preliminary operation should be practiced two or three days prior to the radical operation. The second expedient is the temporary arrest of the flow by mechanical means if collapse is threatened. It is needless to say that an opiate, preferably morphia hypodermically, and stimulants, are given prior to the operation to anticipate this danger.

The danger of striking against a rib, spoken of in the books, scarcely demands our attention; its avoidance is a simple matter of operative adroitness. When, however the ribs fall close together or overlap in consequence of the partial drainage of the cavity through a previously formed spontaneous fistula in the chest wall or a bronchus, it is occasionally impossible to complete the operation until after the resection of a rib.

The danger of wounding an intercostal artery by the trocar, is not to be feared. The relation of the artery to its rib and the shape of the trocar are such that it is difficult to conceive how such an accident should occur.

Of the remote dangers resulting from the operations I shall allude to two only. These are septicæmia, from infection through the freshly-abraded tissues, and sudden death in the course of subsequent treatment.

The operation by the trocar possesses, over that by the bistoury, important advantages in respect to the danger of purulent infection in the track of the wound, because the former instrument compresses the tissues and compels them into close contact with the drainage tube, thus preventing their immediate exposure to contact with escaping pus. The efficient disinfection of the instrument and the use of disinfectants to wash out the chest at once tend also to avert this danger, which is, in truth, one of the most serious attendant upon the treatment of empyema. On the contrary, the wound made by the knife exposes more extensive absorbent surfaces to immediate contact with the outflowing stream of pus.

Of the danger of sudden death during the after treatment, I can only say that it is of sufficiently frequent occurrence to invest the care of these cases with an enormous responsibility. It occurs in most cases from heart-clot; less frequently, as Bartels suggested, from sudden alteration in the position of the heart in such a way that the ascending vena-cava was bent upon itself and its emergence through the foramen quadratum; and occasionally from causes that are as yet wholly beyond conjecture.

The internal administration of the salts of ammonia during the course of the treatment, to lessen the danger of heart clot, and the habitual exercise of due caution in all the details of washing out the cavity, are all that our present knowledge suggests in the way of averting the catastrophe of sudden death.

Finally, the operative treatment of empyema may be greatly simplified. It consists, in fact, of the perforation of the chest wall, the elimination of the fluid, and the use of a proper tube to effect continuous drainage and serve as the means of washing out the cavity with suitable disinfectants. Yet it has been complicated by various devices in nowise needed to secure the end in view—by some that have proved in fact positive hindrances to the attainment of of that end. I have alluded to the dangers of *through drainage*. I hold that the cavity of the chest cannot be properly washed out or disinfected by means of a drainage-tube passing into the chest at one opening and out by a second. Certainly, it is impossible to apply, under such circumstances, Callender's principle of distention, by which alone the disinfectant solution can be brought in contact with all portions of the cavity-wall; whereas, if there be a single opening, this may be done with due caution at every sitting. Double canulæ also prevent the gentle application of the principle of distention, and are not available to cleanse or disinfect the cavity. All appliances designed to exclude the air are useless, and belong to the past. Metal canulæ, with ingenious caps or valves intended to retain the pus on tap, so to speak, are as irrational as they are ingenious. The drainage must be continuous, and the freest communication with the external air is desirable.

The operation does not call for general anæsthesia, nor is the administration of an anæsthetic always safe. The common practice of applying ice to the skin to produce local anæsthesia is to be condemned: it prolongs the procedure; it probably does not lessen the necessary pain, and it is painful in itself.

The thorough disinfection of all instruments, it has been stated, is essential, but neither the spray nor antiseptic dressings are needed. The statistics of this operation, to the present time, show no better results under Listerism than without it.

The main steps of the operation, and the subsequent treatment, may be briefly outlined as follows:

The preliminary aspiration The puncture, by means of short trocars (not exceeding in length two inches), the canula being retained only until the pus ceases to flow, when a soft rubber catheter (Nelaton or Jacques) is slipped into position, and the metal canula withdrawn. Catheters are preferable to sections of drainage-tube by reason of the ease with which they can be introduced into the sinus by means of a probe. It is occasionally necessary to change the catheter, or to remove it to clean it.

The washing of the cavity by means of a ball syringe and a system of soft rubber tubing, the connections being made by sections of tapering glass tubes. This operation is to be repeated once or twice a day. The temperature of the water injected should be figures 1 or 2°–5° F. and the amount of force used very slight indeed. At the first sitting no more should be

injected each time than one-fourth the volume of the pus withdrawn. This injection is to be repeated at each sitting until the water returns only slightly turbid or clear. After having used for this purpose many of the disinfectants in vogue, I have settled upon the mercuric bichloride as the most efficient and convenient. At first I used one part to 15,000, then one to 8,000, and finally one to 5,000.

In the intervals of the dressings, the patient wears a large pad of oakum to absorb the discharge.

As the cavity contracts and the discharge diminishes, the interval between the washings may be much prolonged; when the discharge becomes serous, and does not exceed two fluid drachms, the tube should be withdrawn and the sinus permitted to heal.

If a spontaneous opening has formed in the chest wall, the plan of treatment is not thereby modified. Such sinuses are badly located, oblique, often tortuous, and always ineligible for operative purposes. In such cases, proceed as though no spontaneous opening existed. After the operation, such openings speedily heal. Bronchial fistulæ are equally without influence in modifying the treatment.

Since I have adopted the plan indicated in the foregoing sketch, namely, during the past six months, I have had under treatment five cases of empyema—three in the Hospital of the Jefferson College, one in the Philadelphia Hospital, and one in private practice. Of these, three fully recovered, one died of heart-clot, and one is at present under treatment.

Following this, Dr. Charles K. Mills, of Philadelphia, read a paper on

"THE MEDICAL SERVICE OF INSANE HOSPITALS."

He discussed some of the best methods of rendering the medical service of these hospitals more efficient. Instead of having, as at Norristown, for instance, four physicians for more than 900 insane patients, there should be at least double that number. The individual examination of every patient should, in some way, be provided for, so that those suffering from mental diseases in the institutions receive the same attention, so far as diagnosis and treatment are concerned, as do other patients in general hospitals or private practice.

It is an old story, but one which cannot be too often repeated, that the physicians, superintendents and assistants, are compelled to do too much regular and irregular non-medical work.

Every large hospital for the insane should be provided with a board of competent and conscientious "consulting physicians," which should have an existence in more than mere name.

Dr. Mills referred to the appointment of a staff of visiting or consulting physicians to the Norristown State Hospital, giving as his view, that such should have been selected only from those who would agree to do the necessary work. He believed, with Prof. Seguin, that the duties of such should resemble, as nearly as possible, those who were called upon as consultants in private practice.

Such staffs should be constituted, in the first place, of a few well-known alienists and neurologists, and secondly, of a limited number of physicians and surgeons representing the various branches of medicine—a surgeon, a gynæcologist, an ophthalmologist, aurist, etc.

Every large hospital for the insane should be provided with a competent pathologist and microscopist. Preferably, these officers should be residents of the hospital, but where the hospitals were situated near large cities like New York and Philadelphia, the services of competent and even eminent men in these lines might be secured, who could be summoned by telephone or telegraph to perform autopsies, or to whom specimens could be referred for investigation and report.

Some of the suggestions and provisions embodied in the report and act, framed by the commission appointed by Gov. Hoyt in 1882, to examine into the present system for the care of the insane in the State, were commented upon, and advocated as measures designed to promote the greater efficiency of the medical administration of institutions for the insane.

Dr. Henry H. Smith was chosen President of the Society for the ensuing year.

Philadelphia was selected as the place for next meeting.

After the transaction of routine business the Society adjourned.

The Microphyte of Yellow Fever.

The *Brit. Med. Jour.*, March 3, 1883, says that Dr. Carmona del Valle believes that he has detected the microphyte characteristics of yellow fever, and proposes to name it *peronospora lutea*. The germs of the cryptogam are found in the patient's excretions, and in the fluids of the organism, especially the blood and the serous discharge resulting from blisters. Dr. Carmona del Valle has also discovered in the matter vomited, besides spores, a large quantity of mycelia of various colors, black predominating. The *vomito negro* (black vomit), according to this author, is due to the presence of these black mycelia; and the blood has not any influence on the color. In urine, he has observed small yellowish granules, which give birth to spores. If rabbits or dogs be injected with this urine, they exhibit febrile symptoms, with increase of temperature, which last two or three days; and the urine of the animals under experiment presents the same kind of granules as those observed in that of yellow fever patients. Animals which have once been subjected to injection resist the effects of a second. In order to render an animal exempt from yellow fever, it is sufficient to inject into it a small quantity of distilled water containing the specific fungus of the disease. The spores of the *peronospora lutea* are present in the urine of yellow fever patients for a length of time after their recovery. Their presence, Dr. Carmona del Valle believes, is the reason why such patients are not subject to a second attack. To test the amount of danger of prophylactic injection, Dr. Carmona del Valle

performed it on himself without any bad result; his urine, however, for some time contained the characteristic granules.

Medical Association of Central New York.

The sixteenth annual meeting of the Medical Association of Central New York will be held at Association Hall, Nos. 55 and 57 E. Genesee street, Syracuse, Tuesday, May 15, 1883, at ten o'clock a. m. A resolution was adopted at the last meeting requesting the secretaries of the county societies in affiliation with this Association, to forward the names of deceased members in their respective counties to the Secretary, on or before the 1st of May and 1st of November, in each year. Also that members intending to present papers at the meeting, should report their titles to the Secretary instead of the President, as heretofore.

Among other subjects of interest, Dr. A. Clifford Mercer will exhibit specimens of bacilli tuberculosis under the microscope.

Lead Poisoning from a New Cause.

Silken thread, sold by weight instead of length, is sometimes adulterated with sugar of lead. A seamstress was recently admitted into the Leeds Infirmary suffering from evident lead poisoning. Upon questioning her it was found that it had been a common practice with her, when at work, to hold silk as well as other kinds of thread in her mouth, and that she had done this the more readily with silk, inasmuch as it often had a sweet taste. It will be found that the silk thread of the best makers is tasteless, whereas some inferior threads are sweet.

A Throat Electric Lamp.

At a recent meeting of the Leeds and West Riding Medico-Chirurgical Society, Mr. Margetson, of Dewsbury, exhibited an incandescent lamp, designed by himself, and used by him since October last in examining the mouth and throat. The globe was about half the size of a walnut. It can be held in the mouth for two minutes without discomfort from the heat.

The Philadelphia Polyclinic.

The Philadelphia Polyclinic and College for Graduates in Medicine has received for the various classes, in the last two and a half weeks, the fees of twenty-six members. Some of the departments are full, and will receive no more pupils unless by special arrangement for extra hours. The by-laws prohibit the admission to the classes of *free* pupils or of medical *students*.

To Detect Starch in Milk.

The adulteration of milk by starch can be readily detected by the following method: Add a few drops of acetic acid to a small quantity of the suspected milk; boil the milk, and after it has cooled, filter the whey. If there is any starch in the milk, a single drop of iodine solution will give a blue tint to the whey.

Women's Medical College.

At a meeting of the corporators of the Woman's Medical College held April 23, 1883, Dr. W. W. Keen was elected to the Chair of Surgery in that institution.

Items.

—Fluid extract of cocoa is said to cause anæsthesia of the pharynx when brushed upon the mucous membrane.

—"Don't be going to the funerals of your patients," said a physician's wife to her husband; "it looks too much like a tailor carrying home his own work."

—The alkaline tannates, *e. g.*, the tannate of sodium, is said by Prof. Pribram to be a very efficient diuretic, and useful in dropsies from nephritis.

—The Munich Medical Society has presented a petition to the Bavarian Government asking that the course of medical studies be prolonged from four years to five. The petition is widely signed, and appears to be favorably received.

Had cremation been made legal in France, the body of M. Gambetta would have been burnt, as his name appeared in the list of senators and deputies who intended to lay the subject before Parliament on the earliest occasion.

—At a large anti-vivisection meeting recently held at Manchester, England, three resolutions successively proposed by the originators of the movement were voted down, owing to the effect of a temperate speech on the aims of physiologists by Professor Gamgee, who was present.

—According to Ruggi the operation of excising the knee-joint has been performed in Italy forty-six times: thirty-nine for disease, five for angular anchylosis, and one for traumatic lesion. Thirty-two of the patients reccvered, nine died. Secondary amputations were performed in the other five cases.

—Some alarm has been caused in Burslem, England, in consequence of the crier being employed by a chemist in the town to announce that a customer had by mistake been supplied with poison instead of magnesia. It is not yet known whether the person who made the purchase has been made aware of the mistake.

—The Russian Press notices a new step taken by General Tchernaieff, at Tashkend, in establishing a hospital for Mussulman women, presided over entirely by Russian female doctors. This, it is said, is the first time that Russian doctors of the fair sex have been admitted to separate and independent practice.

MARRIAGES.

EGGERT—LEONARD.—April 25, 1883, at the residence of the bride's father, John B. Leonard, by the Rev. J. M. Bray, Geo. L. G. Eggert, M. D., and Miss Adda M. Leonard, both of Parker City, Pa.

MADEIRA—SHEARER.—On April 26, 1883, at the residence of the bride's father, Dr. James Y. Shearer, Sinking Spring, Pa., Dr. James D. Y. Madeira and Miss Alva J. Shearer.

FREUND—YOUNG.—On Wednesday evening, April 25, 1883, by the Rev. A. Spaeth, D. D., Dr. H. H. Freund to Miss Kate E. Young, both of Philadelphia.

DEATH.

WHITING.—April 16, 1883, at Pensacola, Fla., Dr. John Cary Whiting.